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TELEGRAPHIC ADDRESS—LANCET, WESTRAND LONDON TELEPHONE NUMBER—GERRARD 5356

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A Lecture
ON
SOME APPLICATIONS OF ANTENATAL EUGENICS IN HEREDITY.

Delivered as one of the Post-Graduate Lectures at Edinburgh on Sept. 17th, 1913,

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GENTLEMEN,—By Eugenics, a term introduced by Galton in 1883, we understand strictly the science "pertaining or adapted to the production of fine offspring, especially in the human race."[1] By National Eugenics Pearson means the science which has as its aim "the study of agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally"; it has "the double meaning of goodness of nature and goodness of birth."[2] From its derivation, however, eugenics is a science antenatal in its scope, and it is this aspect I wish to discuss to-day—viz., How are man's qualities, in a broad sense, determined and transmitted so far as the zygote (or fertilised ovum) is concerned, and how can we affect this? National pos natal eugenics would then comprise all the rational means of preserving and conserving the health, bodily and mental, of human individuals after birth, and might be shortly termed "national hygiene."

The importance of our being alive to the value of antenatal eugenics cannot be over-estimated, and in support of this statement I may quote one statistical fact. According to the report of a Royal Commission in 1908 there were in England and Wales "149,628 mentally defective persons, in addition to certified lunatics, and ..... nearly half of them were in an unprovided condition and a standing menace to public safety."[3] If we take into account the mental anxiety and responsibility such unfortunates cause to their parents and guardians, their cost to the State, their greater fertility, so far as higher grade defectives are concerned, in comparison with normal individuals, as well as the high proportion of criminals among them, we must see in their unrestricted presence among our population a real and serious menace to the prosperity of the nation.

HEREDITY AND VARIATION.

The basis of eugenics is the well-known fact of heredity—viz., that the progeny of a race have, with some exceptions, the qualities making up their mental, bodily, and propagative powers from their parents and ancestors. Heredity, in fact, implies transmission. This, however, is a too limited conception. Qualities, normal and abnormal, may be found in progeny, which were not in their parents nor in their ancestors. Thus genital defects rendering an individual sterile turn up among us in by no means small numbers. They are not transmitted by their possessors, yet occur unexpectedly, and are not inherited as one might expect from a superficial interpretation of the term heredity. The same happens in some insects. The bulk of the inhabitants of a beehive consists of sterile females, the workers. Their mother is the queen bee and their father the drone, but they themselves have no offspring.[4] We must add therefore to our conception of transmission by heredity those of distribution and loss, both leading to variation.

Variation in heredity is a constant phenomenon. Individuals of a family are only approximately alike, vary from their father and mother and from one another. Every intelligent mother will tell you that her children are different and vary from her and her husband, often strikingly so, and may sometimes plaintively say, "I wonder where this child got *that*." We have, however, more exact evidence on this point of variation from finger-prints. These are an infallible means of settling identity in criminals, for instance. No instance of identity of finger-prints in separate individuals is known, except in cases of identical twins, where they are similar in the main.

How, then, are the transmission and distribution leading to normal variations brought about? How may abnormal conditions arise, defective and abnormal, and how are these transmitted? We must begin with an elementary consideration—viz., that each human male and female must be regarded as made up of "soma," or body, and heredity cells (ordinary ovum and spermatozoon) placed in the sexual gland, ovary in the female and testis in the male. The framework of the sexual gland is somatic. The "soma" is the actual body of the adult and exists only for the lifetime of the individual. Its qualities are the result of a certain distribution in the fertilised egg or zygote—that is, between the part of the latter giving rise to the soma and the other portion from which the heredity cells arise. The more exact mechanism of this will be discussed presently. The adult does not transmit certain of his "somatic" qualities by his "soma" but by his heredity cells. The transmissible qualities in the latter vary from those expressed in the soma, and thus one cannot say from a study of the latter that the progeny will have the same qualities or even many of them; they may have others not present at all in the parental or even in the ancestral soma. The destiny of the progeny lies, therefore, in the "heredity cells" as already defined, and it is to a right knowledge of the origin of these, of their metamorphoses in the sex gland, and of what happens to them at fertilisation, that we must look for light on the obscurity of our knowledge on heredity. How, then, do the heredity cells arise?

THE ORIGIN OF THE HEREDITY CELLS.

This distinction of "soma" and heredity cells is of supreme importance in heredity. It is customary to treat the question of transmission as going on from "soma" to "soma" in plants and animals. This is quite erroneous. It is the heredity cells that transmit, and the intimate mechanism of how these cells originate and how distribution and transmission are carried out by them up to fertilisation that is the question to be elucidated.

Progress in our exact knowledge has been, and is still being, retarded by the view, so long taken, of their origin from the epithelial cells covering the sex gland, from what is termed the germ or capsular epithelium, the cells of which are somatic. This view does not seem to be tenable now, although at one time no other was held. The histologist saw the heredity cells as oöcytes or ova in the female sex gland, and naturally when he looked about as to their source *within the ovary* the germ epithelium seemed the most likely one. When, however, *the whole* of the early developing organism was sectioned, certain travelling cells were found in the germ layer known as the inner or endoderm, and this gave quite a new source of origin for the heredity cells, as we shall see.[5] The origin of the heredity cells from the somatic cells of the germ epithelium I hold to be inconsistent with our present knowledge, although supported by many able histologists and much ingenious terminology.[6] It makes any explanation of heredity difficult and speculative, and, further, considers the heredity cells as originating from somatic cells instead of *vice versâ*.

The more correct view, supported by much and ever-increasing evidence, makes the heredity cells originate from an early division of the zygote This view may be put thus.[7] The zygote early in its development sets aside one part to form the "soma" of the individual, while at the same time a part is marked off, the primitive germ cell mass, to form the future heredity cells (ultimate ova and spermatozoa). While the somatic part is developing its germ layers, and before the genital ridges are developed on the Wolffian bodies to

[1] See Murray, English Dictionary; and Galton's Inquiries into Human Faculty, &c., 1883.
[2] The Scope of and Importance to the State of the Science of National Eugenics. London: Dulau and Co. 1909. P. 10.
[3] See the "Britannica Year Book," 1913. Pp. 299. Encyclopædia Brittanica Company. London. 1913.
[4] I use this as a simile. Many hold that their condition as compared with that of the queen is due to food. See "Phases of Evolution and Heredity," p. 145.
[5] This question has been worked out best in regard to the origin of the ova or oöcytes. We cannot say in an early embryo where the heredity cells are *en route* for the sex gland whether they will become oöcytes or spermocytes in it.
[6] See especially Bryce, Embryology, Quain's Anatomy (eleventh edition, p. 191), on von Winiwarter's views.
[7] The chief names associated with this view are Richard Owen, Eigenmann, Nussbaum, J. Beard, Lewis, King, Rubaschkin. See also Keibel's and Mall's Embryology, vol. ii., for Felix's article.

form with it the somatic part of the sex gland, the primitive heredity cells are travelling through the endoderm, like amœboid cells, and ultimately pass into the genital ridge when it has developed on the Wolffian body. The genital ridge and enclosed heredity cells with, in the male, certain Wolffian tubules now make up the sex gland. In fishes, frogs, birds, and mammals this migration is found, and the heredity cells can be stained and demonstrated. One observer, at least, Ingalls,[8] has found these travelling heredity cells in a 4·9 mm. human embryo (Urgeschlechtszellen he terms them without further comment) at the root of the mesentery on the mesial side of the Wolffian fold beneath the peritoneum there—i.e., they were not in the sex glands, which had not developed then, but travelling towards them. Thus, the heredity cells are not somatic, but *are an intrusion into the somatic part of the sex gland*, and are *in* it but not *of* it. They form a portion set aside and handed on from generation to generation, as Galton and Weismann suggested long ago under the terms "stirp" and continuity of the germ plasma.

THE DETERMINANTS OF HEREDITY.

According to Weismann and to the additions to our knowledge already given the somatic part of the zygote contains an id of determinants, the causal elements for the "soma" of the adult it will give rise to, and each of the heredity cells also an id. I must add, however, some interesting suggestions. We must regard the somatic portion as containing an id *plus* some directive and as yet unknown condition regulating the development of the somatic part to the adult form.

The determinants of heredity lie in the germ plasma in the form of "chromosomes" in the heredity cell nucleus. They are protoplasmic, and contain the immediate family qualities and those of recent and long past ancestors. The chromosomes are in the cytoplasm of the nucleus, and when we speak of the germ plasma we mean the former. In the ovum of the fœtal ovary and in the spermocyst of the fœtal testis they undergo mitosis (karyokinesis)—i.e., longitudinal and transverse splittings, and also in their minuter unknown particles, a circulation—all, I suggest, to give a variation of the determinants of heredity. Such variations follow the law of probability by which physicists now reckon the molecular movements of gases and emitted radium atoms, and thus we have to keep in mind not only that the determinants represent and are causal to the adult organs, but that this probability law, used in molecular physics to get at the results of such molecular movements, gives us an explanation of the probability curve which rules the groupings of height, length of bones, &c., in adults as expressed by biometricians.[9]

I must now mention a very striking phenomenon first discovered by van Beneden—namely, the "maturation" occurring at fertilisation when the gametes are formed from the approaching male and female germ cells prior to fertilisation. I have already stated that the heredity determinants are in the chromosomes. Each species of animal has its special number. In the round worm of the horse they are four, and changes in the number are thus easily seen. In maturation half of the chromosomes are lost, and thus in the approaching gametes in fertilisation in this worm each has only two. When the gametes unite for fertilisation the normal number for the zygote is made up—viz., four. This, then, means a reduction of heredity determinants on each side by one half, and thus we may have here a striking variation brought about for the future organism developed from the variation zygote. Mitosis thus gives a variation in determinants, expressed by a probability law, and results in the ordinary probability variations in offspring. In maturation we may get a striking variation, resulting in a marked variation in the progeny.

I now go on to consider briefly, on this preliminary basis, the work of Mendel.

MENDELISM.

Mendel's most easily understood crossing was that obtained by fertilising the stigma of a tall pea plant with pollen from a dwarf one, or *vice versâ*—it makes no difference in the result. The first generation were all tall and not intermediate in size, as would have been expected from any blending theory. This generation, self-fertilised, gave talls to dwarfs 3 : 1; of the talls one-third were true to tallness and two-thirds, now called impure talls, gave talls to dwarfs 3 : 1 again. The dwarfs, on the other hand, bred true to dwarfness throughout.[10] From this absence of blending of qualities in crossing experiments Mendel looked on the plant as made up of autonomous elements comprising height, colour, &c.—that is, of a large number of autonomous elements which became rearranged in a crossing, but in no way blended or counteracted. These are termed the autonomous unit characters in the adult plant or animal.

If we enumerate the results of such a crossing through several generations, as Mendel was the first to do, we get a probability result of 1 : 2 : 1—i.e., one of pure talls, two of impure talls, and one of dwarfs. The great results of Mendelism are: (1) the autonomy of unit characters; (2) the segregation of contrasted unit characters in a probability ratio; and (3) the fact that in a crossing with one contrasted character on each side one quarter of each is pure in the propagative part of the zygote, while one-half gives impure results—i.e., contains the two contrasted qualities in the pollen grains and egg cells.

Mendelism has thus brought great results into the mechanism of evolution, but one of these has not been logically pushed. If to the autonomy of the unit characters we add Weismann's idea of causal determinants in the zygote and gametes, we can then see that the autonomy of the unit characters may be considered as the result of the autonomy of the determinants. Further, changes or variation of unit characters can be brought about by probability changes in the determinants by means of mitosis and maturation.

The 1 : 2 : 1 probability result in plants Mendel discovered is thought by many to be the result of the combination of the pollen grains and egg cells in a tall-dwarf crossing. These, however, are merely the receptacles for the determinants, the analogue of the test tubes of chemical solutions which do not play any part in the equation of the chemist.

Most of you have heard of Mendel's theories of dominance and recession, and, indeed, from the prominence given to them you might be pardoned if you imagined that they were of supreme importance in Mendelism. They are, however, merely striking and metaphorical terms used by Mendel to explain one great fact in the first generation of the crossings (F^1) and this fact is as follows. In a tall dwarf crossing the plants of the first generation (F^1) are all tall, a great surprise to those who adhered to the blending theory. Mendel called the tall quality dominant and the dwarf recessive, expressing himself cautiously as follows: "The term 'recessive' has been chosen because the characters thereby designated withdraw or entirely disappear in the hybrids,[11] but nevertheless reappear unchanged in their progeny." From what has gone before it will be readily seen that the recessive quality "withdraws"—i.e., is distributed in the pollen grains and egg cells along with the dominant quality, but is not represented in the "soma" of F^1 plants. They should therefore be termed the first and second qualities, as the dominant is the first to be somatically and exclusively represented relative to dwarfism in F^1. There is no real dominance in tallness, as both tallness and dwarfness are distributed in a probability ratio in the pollen grains and egg cells of F^1 and afterwards in the same ratio in the plants themselves (F^1—F^n). This is no mere academic point, as attempts have been, and are being made by observers, myself among the number at one time, to classify the unit characters of the human body as dominant and recessive, and to allot to these, both in heredity and in diseased conditions, the power or representation, priority and otherwise, the terms express verbally. Nothing is gained in heredity by applying this theory after F^1, and all we can say is that in a T × D crossing one contrasted quality will be represented alone in the "soma" of the plants of F^1, but after that in F^2–F^n the distribution of the plants will be a probability one both in the pollen grains and egg cells and in the plant soma. One cannot use the

[8] Beschreibung eines Menschlichen Embryos von 4·9 mm., Archiv für Mikroskopische Anatomie, vol. lxx.

[9] Clerk Maxwell was the first to suggest that the molecular movements of gases in a closed space could be estimated by a probability law, and Arrhenius states that emitted radium atoms can be estimated by the same means. See the New Physics, by M. Lucien Poincaré, and also Arrhenius, Theories of Solutions, 1912, p. 33.

[10] The talls in every case are the same somatically. The pure talls have determinants for tallness in their pollen grains and egg cells. The impure talls have determinants for tallness and dwarfness together in their pollen grains and egg cells. The purity of gametes theory is quite erroneous.

[11] See in F^1, Bateson's Mendelism, p. 325.

idea of dominance and recession after the first generation, and thus as most of our results in human heredity are considered in generations subsequent to F^1 they are inapplicable in them.[12]

POINTS BEARING ON ANTENATAL EUGENICS.

The important points, then, to be considered as having a bearing on antenatal eugenics are: 1. The continuity of the germ plasma. 2. The origin of the heredity cells, not from the somatic cells covering the sex gland, but from an early division of the zygote. 3. The distributed and transmitted determinants of qualities giving rise to variation by means of the mitoses in the hereditary cells and their maturations prior to fertilisation, these processes being carrried out according to the law of probability. 4. Natural selection considered as an eliminant. 5. The autonomy of the unit characters, and therefore the autonomy of the causal zygotic determinants. 6. The probability result of the distribution of the determinants in the zygote by which each of the contrasted characters has a 25 per cent. chance of its pure distribution.

TRANSMISSION OF CHARACTERISTICS.

The sharp division made between soma and heredity cells raises the question—Can a somatic variation due to environment or accident be transmitted to progeny? Or, to put it more generally—Can acquired or induced somatic qualities be transmitted? From what has gone before it is evident that it is the germ plasma that transmits, and therefore any somatic or induced variation must have the power of influencing the germ plasma causally by placing determinants in it for its own transmission. No valid explanation of any such transference has been brought forward, and all of them are of a metaphorical nature. This is a most important point, as somatic disease in an adult, while it may infect the progeny in utero, does not if such progeny survive give rise to a race with this disease. Thus tuberculosis and syphilis, for example, are not hereditary diseases, a fact of the greatest moment to us. They are merely micro-organismal somatic diseases, and not hereditary in the strict sense.

One cannot counteract or obliterate or blend unit character determinants so as to get an intermediate or negative result. These determinants are autonomous and segregate in certain ratios. Thus they have their face value as in cards, and must be played out as such.

For the unit characters of the adult there are thus exact determinants in the germ plasma, and these are provided even for the most minute parts of the body. Many examples could be given, but one of them may be mentioned here in illustration. What is known as the Habsburg lip arose, according to Eimer,[13] as follows:—

> A very remarkable example is afforded by the large underlip of the Habsburgs. Portraits of Rudolf I. of Habsburg already show it. It was inherited by his descendants up till the last of them, the Emperor Charles the Sixth, 1740—that is, for five hundred years. With Charles the VIth the male line of the Habsburgers became extinct. Its place was supplied by the Thuringian line derived from the marriage of Francis of Thuringia with the Habsburger Maria Theresia. In the male descendants of this couple the great underlip appears again, and has been transmitted to the present day, although the wives of the Habsburgers, coming from various families, could not possibly by chance have generally possessed it, and did not possess it.

This is an interesting instance of a sex-limited transmission—i.e., of one present in one of the male gametes, in the Wolffian one—that is, in the one containing the Wolffian determinants for the somatic part of the testis, and therefore the transmission of the deformity. The female Habsburgers do not have it because the gamete from the male is a non-Wolffian one, that from the female a Wolffian one giving rise to the somatic portion of the ovary. Thus there is a special determinant for the lip shape, inconceivably minute as it must be, and no counteraction of it has taken place. Germ-plasma implanted determinants are transmitted in a probability ratio as Mendel showed, and biometricians have demonstrated that the numerical results of "organ" measurements, whether height in general, length of special bones, leaves of plants, &c., when separated out into similar groups give some form of frequency polygon.

[12] In certain first crossings between Anglo-Saxon and Eastern nations there is said to be a prominence of undesirable qualities in the first generation. The combined qualities may, however, be segregated afterwards, so that we may get a certain ratio of the desirable and undesirable combined qualities coming out, a certain number of them pure.

[13] Organic Evolution as the Result of the Inheritance of Acquired Characters. J. T. Cunningham's Translation. Macmillan and Co., London, 1890.

THE RELATIONS OF EVOLUTION TO DARWINISM, WEISMANNISM, AND MENDELISM.

Before going on further to practical results we must "orient" ourselves in regard to some points. Some of you may say, What relations have evolution as a whole, and the systems known as Darwinism, Weismannism, and Mendelism, to one another, and the last three to evolution?

Evolution is the great principle of progress of conditions in the universe, on this earth, and in all that precedes and pertains to man. Darwin, who is the greatest figure in the question of the mechanism of evolution, brought out results which are conveniently summed up as Darwinism. His followers have assigned three factors to it—variation, transmission of variation, and natural selection. Natural selection is, according to them, the great factor in producing variation. There is a fallacy, however, in all this—viz., the assumption that variation is mainly extrinsic. Darwin recognised that a somatic variation must be placed in the germ plasma, and therefore his theory of pangenism—i.e., of particles, gemmules, passing by the blood from somatic variations to the germ plasma, and thus giving causal agents there. Now it is here that Weismannism comes in. Weismann asserted the continuity of the germ plasma and the non-transmissibility of acquired characteristics; and the view due to others of the origin of the heredity cells from an early division of the zygote has demonstrated the accuracy of his suggestion.

Biometricians—Quetelet, Galton, Pearson—and others have shown that, to put it broadly, grouped facts as to bodily organs and functions and vital processes (deaths, crimes, births, organ measurements, labour in animals and man) give some form of frequency polygon, and Mendel made a striking contribution to this by his demonstration of a probability result in his famous experiments.

All these systems or contributions to evolution mechanism—Darwinism, Weismannism, Mendelism, the zygotic origin of the heredity cells, the fact of variation being intrinsic and brought about by means of molecular movements of the determinants in the heredity cells in the ovary and at the time of maturation—are steps in evolution research, and their judicious combination with many yet unknown additions will ultimately give the solution of how evolution in its broad sense has been brought about. If, on the other hand, we consider the heredity cells as having a somatic origin from the germ epithelium, we look on the body of man as purely somatic in its nature, and thus lose Weismann's and Galton's great generalisation of the continuity of the germ plasma. If in addition to this we do not accept the zygotic origin of the heredity cells we are deprived of a real means of explaining transmission and distributing qualities in heredity. It is the assumption that variation is mainly extrinsic that is hindering progress in our knowledge of this vital question.

The important antenatal changes in the heredity cells prior to fertilisation are thus intrinsic in the germ plasma and beyond any direct influence. It is well to bear this in mind, as optimistic eugenists often forget this and raise hopes as to what may be done by eugenics in quite an unjustifiable way. It is to postnatal eugenics that we must look for much valuable progress, but in antenatal eugenics the power of the eugenist is much more limited, and he has to accept, not absolutely but nearly so, the fate determined by the continuity of the germ plasma and the intrinsic zygotic and fertilisation changes occurring prior to and at conception.

GROUPING OF CONDITIONS.

We may group abnormal human conditions due to intrinsic germ plasma conditions and distributions as follows: 1. Those inherent in the germ plasma determinants and subject to ordinary variations and distribution. 2. Those that are due to loss of determinants at maturation and are therefore characterised sometimes by a striking manifestation of deformity. They are thus mutations in de Vries' sense. Of these there are two classes relative to transmission—(*a*) those limited to one sex; (*b*) those occurring in both sexes.

1. *Inherent in the Germ Plasma.*

From these we get the neurotic strain, insanity, imbecility, and other minor and major degeneracies. The germ plasma can probably become degenerate, and it is quite possible that persistent alcoholism in

a series of generations may injure its quality. Goldmann's[14] valuable intravitam injections of animals show, however, that the isamin blue stain affects the membrana granulosa cells, but not the ovum itself. The peculiar imbecile known as the Mongolian is apt to occur late in the childbearing period of a mother, and is of a very characteristic type. The children, however, of persistent alcoholics, on one side usually, may be unaffected, as no doubt many of you have seen.

Germ plasma is most frequently weakened by the marriage of a degenerate with a healthy stock, and this is manifested by the occasional appearance of degenerates in the subsequent progeny. Of this Ireland, in his "Blot upon the Brain," gives an interesting example in the unfortunate insanity of Louis II. of Bavaria, the patron of Wagner and a man of high artistic perception. This was introduced into the Royal family by the marriage of Maximilian II. to Mary of Hohenzollern, daughter of the youngest son of Frederick William II. of Prussia. Ireland's studies of royalties in this respect gives many instances of similar disasters in the Romanoff and Spanish dynasties.[15]

2. *Due to Loss of Determinants.*

Some hereditary abnormal conditions are (*a*) sex limited and not present in the "soma" of the transmitters. This shows how one must keep in mind the division of the body into "soma" and heredity cells. *Hæmophilia* is not expressed in the body of the mother who transmits it to her son, but in her heredity cell. The explanation of the sex limitation in this case and others similar to it is difficult, is bound up with the question of double gametes on each side at fertilisation, but time forbids discussion. The hæmophilia may be considered as due to the loss of the determinant for the clotting power of the blood at maturation and is thus a mutation. This will be seen more clearly under head (*b*).

(*b*) The abnormal and often transmissible qualities not limited to sex are more numerous than those under (*a*), and two striking illustrations are given in brachydactyly and achondroplasia. Here as in hæmophilia the condition is an exact one.

In *brachydactyly* it is the middle phalanx of the fingers and toes that is undeveloped, being only represented by a nodular cartilage ankylosed to the first phalanx (Drinkwater's skiagrams).[16] This deformity owes its origin, I believe, to a loss of the growth determinant for these phalanges when the polar bodies are thrown off. It thus occurred suddenly in this deformity, and its transmission ratio is 50 per cent. sound and 50 per cent. brachydactylous. The condition is not counteracted by the sound member. Brachydactyly is termed a "recessive," but this throws no light on its nature any more than if it were termed "mesopotamic." If present in one gamete and absent in the other we get a "head and tail" result, 50 per cent.

In *achondroplasia* we have defective growth of the bones developing in early endochondral ossification (Alexis Thomson and Symington)[17] in the base of the skull, ribs, limbs, pelvis, and we thus get a short-legged, short-armed variety of men and women, with characteristic insinking of the nose, trident hands, and deformed pelvis. This is transmitted, as it must be, seeing it is probably a polar loss from one heredity cell.

I am making up a list of all the organs in the body that may not be present in individuals often otherwise healthy and capable, and find that every bone in the body, large parts of it (limbs, for instance), certain muscles (especially the pectoralis major), certain parts of the brain (corpus callosum), many organs (kidney, half of the urogenital system, parts of the genital tract) may be awanting. For such a condition nothing can be done,[18] nor can it be prevented.

THE QUESTION OF MARRIAGE.

The guiding and practical principles of this subject of antenatal eugenics may now be taken up.

The first thing to be emphasised is the importance of "strain" in a family. Where there is a neurotic history and a tendency to nervous breakdown in its minor and major aspects the question assumes great importance. Not only do men and women with a marked heredity of insanity intermarry, but, as we all know, may do so without hesitation after a marked attack. There is no doubt this is unwise and may bring a terrible retribution, but how few follow the example of John Smith, the assistant master of Harrow, whose life has been so simply and beautifully recorded lately.[19] All medical men interested in this—and who are not?—should read it for its example of self-denial and the lessons it teaches. It must be noted here that the immediate parental qualities only give an indication of what may be served out in the progeny, and that there may be variations often in sharp contrast to the parental and traceable back to immediate blood relations and even to more remote ancestors.

The medical man should deprecate strongly any marriage where there is a marked neurotic strain on both sides. When on one side only, the healthy side should be that of a sturdy, solid stock. In after generations the same should be done, in this way swamping unhealthy determinants. It should not be considered that one is in this manner antagonising the bad strain, but reducing its production ratio to the healthy new one. Degeneracy, like murder, will out. Such advice, however, is more difficult to give in practice than here, and indeed many who need it do not ask for it, and are unable to grasp its necessity.

As we have seen, some hereditary abnormal conditions are sex-limited and not present in the soma of the transmitters. This shows how we must keep in mind the division of soma and heredity cells.

LEGISLATION AND EDUCATION.

The question of actual prevention of undesirable unions comes up further in the cases of imbeciles or of undesirables who breed criminals. These are a great problem to the eugenist, and strong proposals have been made—the removal of the sex glands or the entire prevention of their marriage. In America especially many such proposals have been made, but these have not been received with any enthusiasm, and do not appeal to one's common sense as being practicable.

It indeed has been suggested that all marriages should only be allowed when there is a clean heredity bill and absence of disease in the case of both contracting parties. In our own country the passage of the Mental Defectives Bill appears to be a step in the right direction, but results have yet to come and be studied.[20]

It is really the people who must be educated in a Disraelian sense; and as Disraeli had to educate his party, so eugenists must spread sane views on such questions among the laity. This is the only safe and rapid method. The public respond quickly to sound teaching and soon start a propaganda among themselves. This is well seen at present in the case of the prevention of tuberculosis, where the preventive measures insisted on by experts are widely followed. How soon ideas diffuse among the laity is shown by the widespread use (all over the civilised world) of means for the prevention of conception, especially among the well-to-do, and the consequent universal and serious fall in the birth-rate. The tenets of Malthusians have become well established in little more than a generation.

Eugenists must take advantage of this lever and insist that to have sound progeny there must be sound parents and ancestors and a healthy post-natal nurture. How far we are from such an ideal need not be said, but how much may ultimately be done by medical men in settling safety in marriage is shown by the discovery of the Wassermann reaction. Apart from the deadly influence of syphilis on the infected man and woman and their offspring, it is now known that it has a greater effect in producing imbecility than was at one time thought. Here, then, is a specific test which could be applied prior to marriage in the case of one of the contracting parties giving a history of syphilis.

CONCLUDING REMARKS.

The future of the science of antenatal eugenics and its practical applications is a great one. If investigation on biometric lines is carried out as is being actively done at

[14] See Goldmann's Monograph, and THE LANCET, May 4th, 1912.
[15] See "The Blot upon the Brain" and "Through the Ivory Gate." Edinburgh: Bell and Bradfute. 1885 and 1889.
[16] Proceedings of the Royal Society of Edinburgh, 1907–8, p. 35.
[17] Ibid., 1892, vol. xviii., p. 271.
[18] See Rischbieth and Barrington's Monograph, Eugenics Laboratory Memoirs, Parts 7 and 8. Also Wagner, Familiäre Chondrodystrophie, Archiv für Gynäkologie, Band c., p. 20.
[19] Recollections and Impressions of the Rev. John Smith, M.A., for 25 years Assistant Master at Harrow School. By Edward D. Rendal and Gerald H. Rendal. London: Smith, Elder, and Co. 1913.
[20] See W. H. Dickinson's article on this Act in the Contemporary Review for September, 1913.

present, we may have such an accession of facts that we may be able at least to predict not any single actual result in heredity, but a probable grouping of such. Thus, if we accept Weismann's view of the representation of bodily structure of function by means of determinants in the heredity cells, and if we combine with this Mendel's discovery of the autonomous unit characters as making up bodily structure, adding to it, as I have done, the idea of autonomy of the determinants and their variation in the heredity cells by mitosis and maturation prior to fertilisation, we may then ask, Can we not settle what and how many are the possible causal determinants in man? This may be worked out as follows. If one takes such books as Ballantyne's "Antenatal Pathology" and Schwalbe's "Missbildungen," and the many X ray skiagrams we have of deformed conditions as well as all the records of such in our various journals, we find an enormous number of exact deformities—i.e., of losses of groups of unit characters representing bones organs, muscles, &c., awanting; and if we add to them the exact losses in the normal female genital tract as compared with the male, we can by such facts and by analogies construct a series of determinants for the unit characters—i.e., organs, &c., of the body. If now we could select, say in a series of three generations, all the determinants of the qualities represented in them, we would obtain a large series of statistics capable of biometric analysis. This may seem a chimerical idea, but it is on Galton's lines—and I am convinced it is the right one—of inquiry. In the future the careful study by means of molecular physics of mitosis and maturation, of the facts of Weismann's and Mendel's great work, and the extended use of biometric methods, will give, I have no doubt, an actuarial value to heredity investigation which it as yet only in part possesses.

The present generation of medical men has received from some of its great predecessors—Simpson, Lister, Pasteur, Koch, to name the dead immortals only—an immense accession of knowledge, and in our daily practice and investigations we unconsciously pay a tribute to their genius. Future generations will be still more in the debt of the great evolutionists—Lamarck, Darwin, Wallace, Weismann, Mendel, Galton—who have laid the foundations of our knowledge of evolution and eugenics, so that the future of our race may be that of one whose ideal is *Mens sana in corpore sano*.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—The first meeting of the new session of this society took place in the board room of the Great Northern Hospital on Oct. 9th, Dr. T. Wilson Parry, the President, being in the chair. Sir George Savage gave a most interesting and entertaining lecture on the Mental Diseases of Old Age. He referred to the degenerations of old age as regards memory, loss of control, sexual perversions, and defect of will, and illustrated his lecture with anecdotes of cases, which he rendered in a most dramatic manner. A hearty vote of thanks was given to the lecturer, a compliment which Sir George Savage suitably acknowledged.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14th, 1914, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the secretary of the College on or before May 1st, 1914. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. All communications should be made to Dr. Thomas R. Neilson, 19, South 22nd-street, Philadelphia, U.S.A.

An Address

ON

THE CEREBRO-SPINAL FLUID IN HEALTH AND DISEASE.

Delivered before the Medical Society of London on Oct. 13th, 1913,

BY SIR DAVID FERRIER, M.D., F.R.S.,

PRESIDENT OF THE SOCIETY.

GENTLEMEN,—In casting about for a subject bearing on practical medicine on which I might address you on this occasion, it occurred to me that it might be of some interest to you as practitioners if I made some remarks on the cerebro-spinal fluid in health and disease. This is a subject which in recent years has assumed great importance, more particularly from a diagnostic point of view, but there are other aspects bearing on the symptomatology of cerebral disease which, I think, are also worthy of consideration.

Let me first remind you of some preliminary anatomical details. The cerebro-spinal fluid occupies the ventricles of the brain, and the subarachnoid spaces of the brain and spinal cord—all these being continuous with each other, so that normally there is free communication throughout. The chief passages between the ventricles and the subarachnoid space are the foramen of Magendie at the apex of the fourth ventricle, and the foramina of Luschka at the external lateral recesses of the same ventricle. The existence of the foramen of Magendie has been questioned by some anatomists, but I think that the balance of evidence is in favour of it being a natural formation, and not a mere artefact as has been contended.

The spinal arachnoid is a relatively large space and forms a sac round the cauda equina, where it can be conveniently punctured, and its fluid evacuated by the usual method of lumbar puncture. On the surface of the brain the arachnoid does not, like the pia mater, follow the exact outline of the surface, but bridges over the anfractuosities, so that in certain situations considerable spaces are formed, constituting the cisterns, which are filled with cerebro-spinal fluid. A spongy reticulum of areolar tissue covered by endothelium separates the arachnoid from the pia mater, so that the fluid fills these like the meshes of a sponge. This reticulum is continuous with the perivascular lymphatic sheaths which accompany the cortical vessels till they break up into capillaries. The perivascular sheaths are therefore continuous with the subarachnoid space, or may be said to open into it. And Mott,[1] from his examination of the brain in sleeping sickness and experimental cerebral anæmia, has given good grounds for believing that the perivascular sheaths are continuous with similar spaces surrounding the nerve cells; so that we have a system of canals continuous, on the one hand, with the pericellular or perineuronal spaces, and, on the other hand, with the subarachnoid space. (In this he is confirmed by the recent *intra vitam* staining experiments of the late Professor Goldmann.[2]) These, no doubt, play an important part in the nutrition of the brain cells—probably forming the medium of interchange between them and the blood in the capillaries—giving up water and carbon dioxide, and taking up oxygen and sugar. The question, however, cannot yet be considered as settled, as His, Sicard, and others believe that the true lymph channels of the brain are separate from the perivascular sheaths of Robin.

Of greater importance, from a pathological point of view, is the fact that the subarachnoid space is continuous with the sheaths of investment of the cranial and spinal nerves, and

[1] Oliver-Sharpey Lectures, THE LANCET, July 2nd (p. 1) and 9th (p. 79), 1910.
[2] THE LANCET, July 12th, 1913, and Brit. Med. Jour., Oct. 4th 1913.

through these enter into communication with the peripheral lymphatics, thus furnishing a means of entry of organisms and toxins into the central nervous system, a source of infection which the researches of Marie and Guillain,[3] and those of Orr and Rows,[4] have shown, may serve to explain among others the degeneration characteristic of tabes. For in the spinal and cranial nerves and nerve roots there is a lymphatic system in the perineural sheath continuous with the lymph spaces of the pia-arachnoid, and as the main current is towards the centres, and particularly along the posterior roots, organisms and toxins can be conveyed in this manner and exercise their specific influence on the parts with which they come in contact.

The lymphatics of the nasal mucous membrane can be injected from the sheath of the olfactory nerve. The subvaginal sheath of the optic nerve is continuous with the subarachnoid space, and coloured particles injected into the subarachnoid space form a distinct ring at the lamina cribrosa, where the nerve enters the sclerotic. Though there appears to be no direct communication between the cerebro-spinal fluid and the perilymph, yet the subarachnoid space is in relation with it by means of the aqueductus cochleæ.

The cerebro-spinal fluid is being continually secreted, and is continually escaping. Various estimates have been made of its average amount in normal conditions, but probably none are quite accurate. It does not exceed a few ounces at most. If allowed to escape it is secreted more copiously, and many cases have been reported[5] of the spontaneous escape of cerebro-spinal fluid from the nostrils to the extent of several litres a day. The same thing may be observed after fractures of the base and after operations for the removal of cerebral tumours, where the dressings are continuously soaked for many days or weeks. If by any chance the fluid is secreted in larger amount than normal or its escape hindered, various pathological conditions arise, to some of which I will refer subsequently.

The cerebro-spinal fluid escapes both by the lymphatics—constituting, according to Cathelin, a kind of subsidiary circulation[6]—and by the veins, but the chief exit, as has been shown by the experiments of Leonard Hill, is the venous sinuses of the dura mater. Salt solution injected into the subarachnoid space at any pressure above the normal venous pressure speedily disappears from the cranio-vertebral cavity—the higher the pressure the more rapid its disappearance. Saline coloured with methylene blue can be seen passing straight into the venous sinuses; and in so short a time as from 10 to 20 minutes the blue colour may be seen in the stomach and bladder. On the other hand, the lymphatics in the neck are in this time not even coloured. After an hour's injection, however, the lymphatic glands begin to assume a bluish tinge. It is held by Key and Retzius that the escape takes place by way of the Pacchionian bodies or glands, which are merely polypoid proliferations of the subarachnoid tissue, which insert themselves into the venous sinuses of the dura mater and diploë. Cushing, however, is of opinion that there must be more direct communication between the subarachnoid space and the longitudinal sinus, as the Pacchionian glands do not exist in the very young or in some of the lower animals.

Most physiologists, since the researches of Pettit and Gerard (1902), are agreed that the cerebral-spinal fluid is secreted by the choroid plexuses. The villosities of the choroid plexus are covered by a layer of cubical or spheroidal epithelial cells which, under the influence of agents which stimulate secretion, are seen to undergo changes indicative of a transformation of the distal portion of the cells into globules which merge with the fluid in the ventricles. These, as the recent experiments of Goldmann have shown, consist largely of glycogen, an important element in the building up of nerve tissues.[7] And Mott has demonstrated the presence of nerve fibrils surrounding the blood-vessels of the villi, which are probably secretory in function. The secretion is stimulated by certain agents, such as the volatile anæsthetics, and by pilocarpine (counteracted by atropine), but especially, as has been shown by Halliburton and Dixon,[8] by extracts of the choroid plexus itself, and also to some extent by extract of brain matter. But though the cerebro-spinal fluid is obviously a secretion, the cells of the choroid plexus offer remarkable resistance to the passage into the fluid of most substances that may be introduced into the circulation. Urotropin, chloroform, and alcohol are among the chief exceptions. On the other hand, drugs and toxins are absorbed from the cerebro-spinal fluid, and produce their characteristic effects with as great (if not greater) rapidity as when introduced directly into the circulation.

The cerebro-spinal fluid, under ordinary conditions, is a clear fluid of low specific gravity—this being on the average from 1·006 to 1·008. It is practically free from corpuscular elements, and contains only traces of proteid in the form of globulin, becoming only slightly turbid on heating. It has an alkaline reaction, but the alkalinity is only half that of the blood. The principal constituent is sodium chloride, and there are traces of carbonates, phosphates, urea, and dextrose. Its composition, however, as withdrawn by lumbar puncture, is no doubt different in some important respects from that at the moment of its secretion by the choroid plexus. In particular, as has been shown by Cushing and Goetsch,[9] the cerebro-spinal fluid contains pituitin, the secretion of the pars nervosa or intermedia of the pituitary gland. This, as I may remind you, is poured into the infundibulum, and thus finds its way into the third ventricle. Cushing and Goetsch have found that concentrated extracts of the ventricular or lumbar fluid cause all the characteristic reactions of pituitin—viz., rise of blood pressure, diruresis, and dilatation of the pupil.

The cerebro-spinal fluid, therefore, besides being the medium of interchange between the blood and the nerve cells according to Mott's hypothesis, would thus be the means of bringing the active principles of the secretion of the pituitary gland into immediate contact with the cerebro-spinal tissues.

As to the mechanical effects subserved by the cerebro-spinal fluid, some are normal, others are concerned in the genesis of various pathological conditions. The brain substance, with its blood and cerebro-spinal fluid, completely fills the interior of the cranial cavity. Being removed from atmospheric pressure and practically incompressible, it can make room for each systolic accession of arterial blood only by diminution in the quantity of venous blood or cerebro-spinal fluid, or both. Each pulsation is distributed uniformly throughout the whole mass by the cerebro-spinal fluid, and the pulsations can be seen and registered by appropriate apparatus at the occipito-atlantoid ligament.

The intracranial tension varies directly with the venous pressure, so that as this varies with inspiration and expiration these phases are well marked—expiration raising the tension and inspiration lowering it. The tension of the cerebro-spinal fluid is, therefore, ever varying more or less. It averages about 100 mm. of water, and when being drawn off by lumbar puncture it can be seen to spurt out with each muscular or expiratory effort.

The cerebro-spinal fluid thus acts as a distributor or equaliser of pressure throughout the whole intracranial cavity. Whether it also acts as a sort of water-cushion to protect the brain against shocks, as is generally supposed, is more than doubtful. There is less fluid relatively at the apex of the temporal lobes than at the cisterns at the base of the brain, yet here jarring or concussion is more likely to occur than there.

The same conditions which lead to the uniform transmission of the normal increase of arterial tension explain the effects of sudden or gradually increased pressure on the brain. As has been shown by Duret,[10] when a trephine opening is made in the skull, and pressure made with the tip of the finger on the exposed hemisphere, the occipito-atlantoid ligament is seen to bulge, and all pulsation stops. The pressure drives the cerebro-spinal fluid out of the lateral ventricle and down into the fourth ventricle, where it tends to escape into the subarachnoid space. If the pressure is sudden or intense, such as may be caused by a severe blow on the elastic skull or by the rapid injection of a non-absorbable substance, the cerebro-spinal fluid may be displaced with such force as to rupture the walls of the

[3] Revue Neurologique, 1903.
[4] Review of Neurology and Psychiatry, vol. v., 1907.
[5] See StClair Thomson: The Cerebro-Spinal Fluid, 1899.
[6] La Circulation du Liquide Céphalo-Rachidien, 1912.
[7] Sup. cit.
[8] Journal of Physiology, vol. xl., 1910.
[9] American Journal of Physiology, vol. xxvii., Nov. 1st, 1910.
[10] Traumatismes Cérébraux, 1878.

iter and fourth ventricle, and cause extensive capillary extravasations here and in the brain generally by damming back the cerebro-spinal fluid into its remotest rivi, rivuli, and perivascular sheaths.

In a similar manner may be explained the suddenly fatal consequences of bullets of high velocity traversing the brain, which, as Horsley and Kramer[11] have shown, kill by the disruptive pressure they exercise on the centres of the medulla oblongata and consequent stoppage of respiration.

Slowly increasing pressure, such as is brought about by the growth of intracranial tumours, and especially such as are so situated as to obstruct the free flow of the cerebro-spinal fluid, lead to increased tension, as shown by the way in which it spurts out on lumbar puncture in most cases of cerebral tumour. It is this pressure propagated into the intravaginal sheath of the optic nerve which, as I think has been conclusively shown by Paton and Gordon Holmes,[12] is the cause of the papillœdema or so-called optic neuritis which is so characteristic of intracranial tumours. Various theories have been propounded as to the pathology of this condition. It has been attributed to pressure on the cavernous sinus; to inflammation caused by toxins generated by the tumour; to vaso-motor influence; to descending neuritis or perineuritis, to all of which views valid objections can be made. The histological investigations of Paton and Holmes have shown that there is no inflammation properly so-called, as none of the characteristic products of inflammation are present. The mechanism is undoubtedly the increase of the intravaginal sheath pressure propagated to the lamina cribrosa, which strangles the central vein and lymphatics of the retina, thus leading to venous congestion and lymph stasis, with swelling and, it may be, hæmorrhages in and around the papilla. The condition is one of papillœdema and not of neuritis.

Another interesting indirect result of increased tension of the cerebro-spinal fluid has been described by Batten and Collier.[13] In many cases of cerebral tumour, wherever situated, degeneration occurs in the posterior columns of the spinal cord, often with symptoms simulating tabes—viz., absence of arm and knee jerks, and in some cases hypotonia, shooting pains, and ataxy. It has been difficult to find a satisfactory explanation of these facts. Batten and Collier, with, I think, good reason, attribute this degeneration to the injurious traction exerted on the posterior roots by the distension of the arachnoid from increased fluid pressure, and especially such as tends to cause rapid dilatation of the ventricles and of the subarachnoid space. From the position of the posterior roots, and their attachment to the arachnoid, these are especially dragged upon, and in consequence degeneration occurs in their intraspinal prolongations. In the further course of gradually increasing cerebral compression, in addition to these indirect effects, we observe a local ischæmia and ultimate destruction of the parts immediately invaded, with a general rise of intracranial tension till the pressure becomes equal to arterial pressure. When this stage is reached the cerebral circulation comes to a standstill, with failure first of the functions of the hemispheres, and last of the vital centres of the medulla oblongata, respiration failing before circulation.

In certain conditions not well understood, as in congenital hydrocephalus, and so-called serous meningitis, the cerebro-spinal fluid is secreted more rapidly than it can escape, or its escape is altogether prevented by blockage of the foramina of Magendie and Luschka. As a result we see the enormous distension of the cerebral ventricles, enlargement of the head, and the other phenomena, physical and mental, with which you are all familiar in congenital hydrocephalus. Whether this is due to increased secretion or blockage of the outflow, or both, is a question, but I agree with Guthrie[14] in thinking that all three causes may be at work. In some cases hypertrophy of the choroid has been found, indicating the possibility of increased secretion; while in others the fluid, though usually of normal composition, resembles inflammatory effusion.

Apart from congenital cases, meningitis at the base or obstruction of the aqueduct of Sylvius is the most frequent cause of secondary hydrocephalus. The most common situation of tumours which have this effect is in the cerebellum or brain stem, but tumours situated elsewhere and reaching any considerable size may also block the outflow by pressing the cerebellum and pons down into the foramen magnum. And one often sees how readily the general symptoms of non-operable tumours of the brain-stem—the somnolence, the hebetude, headache, &c.—can be relieved by puncture of the distended cerebral ventricles and free outflow of the cerebro-spinal fluid.

As regards the serous meningitis of Quincke, Bonninghaus, and others, it is assumed that apart from inflammation the cerebro-spinal fluid may in certain conditions, similar to angio-neurotic œdema, be poured out in such quantity as to constitute an internal or external hydrocephalus. The pathology of this condition is still obscure, but certainly many of the cases of so-called serous meningitis arise in connexion with otitis media and are obviously of inflammatory origin, though the fluid may have none of the characteristics of inflammatory effusions. And the fact that bacilli of various kinds have been found in the fluid obtained by lumbar puncture in some of the cases would render their non-inflammatory nature extremely doubtful.

But in others all signs of inflammation are absent, and the condition is of importance from a practical point of view, as it may simulate cerebral tumour, specially of the cerebellar type, and lead to operations for removal or for purposes of decompression. Fortunately, the relief of the tension by such procedure is often followed by the happiest results.

Since the introduction of lumbar puncture by Quincke in 1891 the examination of the cerebro-spinal fluid by this method is carried out daily even in ordinary out-patient practice, but perhaps less frequently here than abroad. Though when performed with all proper precautions it is, as a rule, without risk, causing at most only trifling malaise within the next 24 hours, yet in some cases, especially in tumours of the posterior fossa, it may be dangerous, and already a good many cases of death have been reported under such circumstances. It is probable that in these cases the rapid withdrawal of a considerable quantity of liquid has led to a jamming down of the brain stem into the foramen magnum and compression of the vital centres of the medulla oblongata.

Much may be learnt from the way in which the cerebro-spinal fluid drops, flows, or spurts from the needle; from its appearance, whether clear, turbid, or blood stained, but more from its chemical and microscopical examination. Since the introduction of the cytological examination of the cerebro-spinal fluid by Ravaut, Sicard, and other French observers, and the discovery of the Wassermann reaction for syphilis, the cytological and chemical examination of the cerebro-spinal fluid has assumed an unusual degree of importance, more particularly in reference to the differential diagnosis of syphilitic and so-called parasyphilitic affections. It is on this question that I specially wish to confine my further remarks.

As has been previously stated, the cerebro-spinal fluid in normal conditions is practically free from corpuscular elements—only from 1–5 lymphocytes being seen in the centrifugalised deposit in the ordinary microscopical field. But in certain forms of disease the corpuscular elements are present in greater abundance and of different forms. In acute microbic affections of the cerebro-spinal meninges, as by staphylococcus, pneumococcus, diplococcus intracellularis, and others, a leucocytosis occurs in which the leucocytes are mostly of the polynuclear type, and the organisms may also be seen, or cultivated in the usual way. On the other hand, in certain more chronic affections of the meninges, as in tubercle, trypanosomiasis, and syphilis, an excess of leucocytes also occurs, and these are mostly of the mononuclear type—in other words, there is a lymphocytosis or pleocytosis. The tubercle bacilli and trypanosomes can also usually be detected, but hitherto the spirochaeta pallida has not been found, in its ordinary form at least. A similar excess of lymphocytes has also been detected in herpes zoster, Landry's paralysis, subacute combined degeneration, and occasionally in disseminated sclerosis, and is generally regarded as a sign of irritation or inflammation of the meninges.

The pleocytosis of cerebro-spinal syphilis, tabes, and general paralysis is often a very early occurrence, and may be found before any of the characteristic signs or

[11] Proceedings of the Royal Society, 1884.
[12] Brain, vol. xxxiii., 1910.
[13] Brain, vol. xxxii., p. 488.
[14] Hunterian Lecture, Remarks on Hydrocephalus, Practitioner, July, 1910.

symptoms of these affections. Hence its great diagnostic value.

In the diagnosis of parasyphilitic affections great reliance is placed on what are termed in Germany the four reactions. These are: First, the Wassermann reaction in the blood. In florid syphilis and in cerebro-spinal syphilis, as well as in tabes and general paralysis, this is practically constantly positive. The second of the four reactions is what is termed Phase 1—i.e., an excess of globulin in the cerebro-spinal fluid. This is determined usually by the Nonne-Apelt method, which consists in mixing the cerebro-spinal fluid with a saturated solution of ammonium sulphate. An opalescence, or turbidity, of the fluid indicates an excess of globulin. This always occurs in tabes, general paralysis, and cerebro-spinal syphilis, and though it may be found occasionally in other conditions, such as spinal tumour and encephalomalacia, yet in combination with the Wassermann reaction of the cerebro-spinal fluid and pleocytosis it has been regarded as practically pathognomonic of parasyphilis. The third of the four reactions is the pleocytosis of which I have already spoken. The fourth is the positive Wassermann reaction of the cerebro-spinal fluid. The frequency of this has been variously estimated by different observers, but the most recent investigations by improved methods (Hauptmann's Auswertungs-Methode) have shown that at least 95–100 per cent. both of tabes and general paralysis give a positive reaction; and the probability is that with improved technique the exceptions will become still fewer, and that in all cases of parasyphilis the Wassermann reaction of the cerebro-spinal fluid will be found positive. In cerebro-spinal syphilis, however, there is great divergence of opinion as regards the reaction in the cerebro-spinal fluid. It is commonly stated (Plaut, &c.) that in cerebro-spinal syphilis, whether the brain or cord is affected, whether the process is acute or chronic, whether the lesion is a gumma, endarteritis, meningo-encephalitis, or meningo-myelitis, the reaction is uniformly negative. In the rare cases—not more than 6 per cent.—in which a positive reaction occurs, the reaction is slight and contrasts markedly with the positive reaction of the blood serum.

The most recent research on this subject, however, by Head, McIntosh, Fildes, and Fearnsides,[15] has shown that in cerebro-spinal syphilis when the cord is obviously involved, a positive reaction is obtained in 21 out of 23 cases—i.e., in 87 per cent. It would thus appear that all the four reactions may be found in tabes, general paralysis and cerebro-spinal syphilis, and that one cannot, as has been hitherto supposed, accurately differentiate syphilitic from parasyphilitic affections of the nervous system by this method.

The great test is the therapeutical one. Whereas in cerebro-spinal syphilis mercurial or salvarsan treatment will in the great majority of instances convert the positive reaction of the cerebro-spinal fluid into negative, in parasyphilitic affections—tabes and general paralysis—this is of no avail.

The question is whether the impotence of our therapeutic measures constitutes a valid or essential distinction between syphilitic and parasyphilitic affections. I need not here discuss the various hypotheses which have been propounded as to the nature and genesis of the parasyphilitic toxin. It has long been recognised that the generally progressive nature of cerebral and spinal tabes must postulate the continued generation of some toxin, and the fact that the blood and cerebro-spinal fluid yield the same reaction as that characteristic of syphilis proper has naturally suggested the continued presence of the spirochæte itself. Many, however—myself and my colleague Dr. Emery among the rest—have in vain looked for the spirochæte in the tissues of the body; but the recent discovery by Noguchi and Moore, confirmed by Marie, Mott, and others, of the spirochæta pallida in the substance of the brain and spinal cord of undoubted cases of general paralysis and tabes, though hitherto only in relatively small percentages, seems to have obliterated the last distinction between syphilis and parasyphilis.

How, then, are we to account for the differences between parasyphilitic and syphilitic lesions, and the curative influence of antisyphilitic remedies in the one case and not in the other? It has been supposed by Mott, and I have myself adopted the same view, that parasyphilitic lesions of the nervous system are essentially of a primary parenchymatous degenerative nature, the changes in the neuroglia and lymph channels being only a secondary result of this process. Head and his colleagues, however, maintain that there is no essential difference between the two processes. They regard both parasyphilitic and syphilitic lesions as a reaction to the same toxic influence—in the one case the reaction occurs in the nerve cells and neuroglia, in the other in the meninges and the vessels. "Parasyphilis of the brain and cord, therefore, corresponds to the parenchymatous lesion of the testicle (so-called parasyphilis of the testicle), while the gummatous lesions of the brain correspond to gummatous (interstitial) orchitis." They liken the reaction of parasyphilis to that of tissues rendered hypersensitive, anaphylactic, or "hyperallegic" by previous infection. Gummatosis is the reaction of hypersensitive vessels and connective tissue which undergo proliferative changes, while parasyphilis is the reaction of hypersensitive nerve elements which have no power of regeneration and therefore break down. The pleocytosis, globulin, and Wassermann reaction of the cerebro-spinal fluid are all indications of the affection of the meninges, and breaking down of the essential elements of the nerve centres.

As there is a more or less continuous generation of the toxin by the continuous presence of the spirochæta pallida in the substance of the brain and cord and perhaps elsewhere, the process tends to be progressive. The most probable explanation of the failure of antispecific treatment to arrest the disease is that the remedies usually employed, such as salvarsan injections, mercurial inunctions, &c., fail to reach the spirochætæ embedded in the nerve tissues. We have already seen that few substances can pass out of the blood into the cerebro-spinal fluid. And Wilcox has found that after treatment by salvarsan, though all the viscera contained large quantities of arsenic, there was no trace of it in the brain.

This naturally leads me to the consideration of another aspect of lumbar puncture on which I have not yet touched—viz., the therapeutical. Hitherto the benefits of lumbar puncture to medicine from a therapeutical point of view have been overshadowed by their diagnostic value. Beneficial results as regards the reduction of intracranial pressure have been reported in cases of hydrocephalus, serous meningitis, and cerebral tumours, but they have not been so marked as to lead to any very general adoption of the method; and in some forms of cerebral tumour, as I have already indicated, the procedure is not free from risk. In many cases of infectious meningitis, other than tubercular, improvement has resulted from lumbar puncture; and the headaches of chlorosis, migraine, syphilis, uræmia have been relieved, as well as the symptoms of Ménière's disease. The injection of cocaine into the spinal subarachnoid for the purposes of producing paraplegic anæsthesia, and the injection of magnesium sulphate in order to allay tetanic spasms, and similar procedures, are familiar to you, and it is not my intention to describe them in detail or discuss their relative advantages or demerits.

I should just like to express the opinion that in those forms of disease which are not accessible to remedies conveyed by the blood stream the only hope of success seems to lie in bringing the antispecific into immediate contact with the organisms which are the cause of the disease. We have seen that the remedies which are all powerful against the spirochæta pallida are incapable of passing from the blood into the cerebro-spinal fluid, while the spirochætæ flourish in the perivascular and pericellular spaces which communicate with the subarachnoid space. It seems, therefore, a rational procedure, and one supported by the brilliant results obtained by Flexner[16] and others in the treatment of cerebro-spinal, influenzal, and pneumococcal meningitis, to introduce into the cerebro-spinal fluid, if it can be done with safety, some of the agents which we know to be fatal to these organisms, in the hope that they may thus be brought into immediate contact with them. Salvarsan, however, cannot be safely injected into the spinal subarachnoid space, except in extreme and probably ineffective dilution. But at the recent meeting of the International Medical Congress Homer Swift, of the Rockefeller

[15] Parasyphilis of the Nervous System, Brain, vol. xxxvi., part 1, July, 1913, read before the Neurological Section of the International Congress of Medicine.

[16] Journal of Experimental Medicine, vol. ix., 1907; Wollstein, ibid., 1911.

Institute made a communication to the Neurological Section which greatly interested me and which seems to be full of promise for the future. His plan, of which he has already published a preliminary communication,[17] is to introduce the serum of one who has just received an intravenous injection of salvarsan, diluted with normal saline, into the spinal subarachnoid at intervals of from two to three weeks. In some cases the results have been very marked—the pleocytosis has disappeared, the globulin has decreased, and in some the Wassermann reaction has become negative, and there has been a general amelioration of the symptoms.

Swift and his colleague sum up their results very cautiously as follows: "While the series of cases reported is small, we feel that the results up to the present are of sufficient value to warrant a continuation of the work on a larger scale. Doubtless the best results can be obtained from the intravenous treatment with salvarsan or neo-salvarsan, combined with intraspinous injections of the patient's own serum, possibly with the addition of small amounts of neo-salvarsan. It is hoped that the treatment here outlined will be of aid in those forms of syphilis, the treatment of which has formerly been so unsatisfactory." I am sure we all cordially echo this modest hope, and if it should be realised we shall have the satisfaction of at last triumphing over the hitherto incurable group of parasyphilitic diseases which at present constitute such opprobria of our art.

THE RELIEF OF THE PAIN OF LARYNGEAL TUBERCULOSIS.

BY EDWARD D. DAVIS, F.R.C.S. ENG.,

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VERY few diseases cause more pain and misery than laryngeal tuberculosis, and though relief is frequently difficult to obtain any efforts to ease such unfortunate patients are amply repaid. The relief of pain is followed by marked increase in weight and a corresponding improvement in the general condition of the patient produced by the loss of dysphagia and the increased amount of sleep. The amount and distribution of pain vary considerably. In a number of cases of extensive and advanced laryngeal tuberculosis there is no pain. Lesions limited to the vocal cords are practically painless and are well known to be the most favourable form of the disease. The lesions are often multiple, and for that reason it is difficult to ascertain which one is the actual cause of the pain. The acute cases, those which run a rapid retrogressive course, are the most painful, particularly those in which there is an exacerbation of the ulceration in a more or less chronic case. The addition of sepsis is another cause of increased pain, and is one of the many facts which emphasise the extreme importance of the elimination of oral sepsis in all cases of pulmonary and laryngeal tuberculosis. The lesions which cause most pain are: firstly, the superficial ulceration of the fauces, tonsils, and pharynx, often a late and terminal stage; secondly, ulceration of the base of the tongue, an extension from the epiglottis, in which every movement of the tongue in swallowing gives severe pain; lastly, ulceration of the arytenoids, and the perichondritis which sooner or later follows, is a frequent source of pain, more particularly when the aperture of the larynx is closed during the act of swallowing.

The distribution of pain produced by a definite lesion varies. The commonest site of pain is immediately over the larynx, and frequently the patient will indicate with his finger the surface marking, so to speak, of the painful lesion. Ulceration of the fauces and deep ulceration of the ventricular bands of the larynx will produce pain in the ear; ulceration of the base of the tongue and epiglottis is referred to the root of the tongue and more rarely to the roof of the mouth. Pain in the mid-line of the neck occasionally means ulceration of the posterior commissure and arytenoids, but the distribution of the pain does not always accurately indicate the position of the painful lesions. The majority of patients complain of a tearing pain during coughing and swallowing, a few that the pain is constant, especially at night.

In order to relieve the pain the cough should be restrained, and the prevention of cough (except the useful early morning cough) is more important than the resting of the larynx by silence. The patient should be encouraged to exercise control and to restrain all unnecessary coughing. Little advance has been made in the treatment of cough, and the same more or less ineffectual remedies are tried. The continuous inhalation of creasote, eucalyptus, menthol, and chloroform with a Burney Yeo or similar respirator is usually successful. Heroin, codeia, morphia linctus, and the trochiscus ipecacuanhæ cum morphia are used, and of these last remedies the ipecac and morphia lozenge is the most useful. The cough produced by the entry of fluids and food into the larynx in the terminal stages of the disease is the most hopeless and difficult to control, and no remedy appears to be of any value. The patient is dyspnœic and too weak to hold the breath during swallowing, and this most distressing symptom really means a rapid termination. At this stage desperate measures, such as gastrostomy, are suggested as a last resource, but the condition of the patient does not allow it, and feeding by an œsophageal tube is much too painful and adds to the distress.

The dysphagia is frequently intense and leads to emaciation and almost starvation. One of the most successful methods of treating this condition was suggested by Dr. Rudolf Hoffmann, of Munich, who injected the internal laryngeal nerves with alcohol and gave these patients considerable relief. In suitable cases the immediate relief of the dysphagia is remarkable, but it depends on two essential factors. Firstly, that the painful lesion must be within the area of distribution of the internal laryngeal nerves—in other words, a lesion of the ventricular bands, the anterior surface of the arytenoids, the aryteno-epiglottidean folds, and the laryngeal surface of the epiglottis. If the lesion is at the base of the tongue, on the fauces, pharynx, or elsewhere, relief is not obtained; consequently injection of alcohol is frequently useless. Secondly, the alcohol must be injected into the nerve or the loose areolar tissue in its immediate neighbourhood. For this second reason the author made dissections of the internal laryngeal nerves and injected methylene blue into the nerves of a number of post-mortem subjects. The most accurate surface marking is midway between the hyoid bone and the upper border of the thyroid cartilage immediately above the superior thyroid tubercle, that is the name given to the prominence of the upper extremity of the oblique line of the ala of the thyroid cartilage to which the inferior constrictor is attached behind and the thyro-hyoid muscle in front. In most subjects the superior thyroid tubercle is easily palpated, and particularly so in the thin tuberculosis patient. Sometimes the nerve pursues an abnormal course. It is usually single, but occasionally it spreads into a number of branches before it pierces the thyro-hyoid membrane. Fetterolf states that the nerve may enter the larynx through a foramen in the thyroid cartilage. As it passes through the membrane the superior laryngeal artery lies immediately in front of it, but the carotid vessels are some distance away and not likely to be injured by the needle of an injecting syringe. The injection of methylene blue in post-mortem subjects tested the accuracy of the above surface marking, and in all cases the pigment was found in the loose areolar tissue surrounding the nerve and staining its sheath, but it was very doubtful whether the needle of the syringe had actually penetrated the sheath of the nerve. Within the pharynx the methylene blue could be seen in the submucous tissue about the middle of the inner wall of the pyriform fossa—that is, in the aryteno-epiglottidean fold midway between the arytenoid and epiglottis.

During a period of a few months I injected a solution of 2 grains of eucaine in 1 ounce of 80 per cent. alcohol into the internal laryngeal nerves of 12 selected cases to relieve the dysphagia. The method of injection adopted was that described by Dr. J. Dundas Grant in THE LANCET of June 25th, 1910, p. 1754, and is briefly as follows. The patient is in the prone position with the head and neck slightly extended and the chin turned away from the point of injection. To avoid sepsis the skin in the region of the nerve is painted with iodine. The larynx is pressed out of the mid-line by the thumb and made to project on the side about to be injected. The nerve is marked out by the nail

[17] Swift and Ellis, New York Medical Journal, July 13th, 1912.

of the index finger, which is placed between the hyoid bone and the thyroid cartilage and immediately above the superior thyroid tubercle where a tender spot is found. The blunt needle of Schlosser's syringe is now pushed in with a jerk at right angles to the surface and at the middle of the finger nail to a depth of 1½ cm.—i.e., to the mark on the needle. The needle is carefully moved so as to seek the spot at which the patient complains of pain in the ear. A few drops of the solution of alcohol are injected, and if there is a violent fit of coughing it indicates that the needle has possibly entered the pharynx and is too deep, but this very rarely happens. Finally, the slightly warmed alcoholic solution is injected until the pain in the ear has ceased. About 1 to 2 c.c. is generally sufficient.

Of the 12 cases mentioned above not one showed any signs of hæmorrhage, injury to the surrounding structures, or other disturbing results—in fact, the proceeding is not much more difficult than the usual hypodermic injection. With the laryngoscope the side of the larynx injected was found to be slightly paler and appeared to be less sensitive when touched with a laryngeal probe. This local anæsthesia is probably the cause of the immediate relief experienced in most cases. In two cases both nerves were injected at the same sitting without any untoward symptoms and without the regurgitation of fluid into the larynx during swallowing, but as a general rule it is wiser to allow a few days to elapse before the injection of the second nerve. Of the 12 cases 2 were unsuccessful owing to ulceration of the pharynx in one and extensive disease in the other. One patient obtained complete freedom of pain for one month and put on 3½ lb. in weight in a week. This patient died a few months later from diffuse pulmonary tuberculosis, and microscopical sections were made of the internal laryngeal nerves and compared with a section of the same nerves of a healthy subject who had been killed by an accident. The nerve which had been injected twice showed increased fibrous tissue and numerous spaces within the bundles of the nerve fibres.

Dr. Dundas Grant records 6 successful cases of the injection of alcohol for the relief of pain. Dr. G. Fetterolf, of Philadelphia, records 26 cases, and his results were: complete relief after one injection, 10 cases; complete relief after two or more injections, 6 cases; partial relief, 8 cases; no relief, 2 cases. Dr. H. Horn, of San Francisco, has published 10 cases, 7 of which were relieved by injection, the relief lasting from a few hours to 40 days. My experience confirms the fact that the duration of relief is variable and may last as long as 40 days, but there is no objection to two or even more injections. Unfortunately, the cases suitable for the injection of alcohol are limited, and frequently the disease has extended to the epiglottis and other areas.

Ulceration of the free upper portion of the epiglottis is treated by amputation with punch forceps. This is not a serious or difficult operation, and is similar to the extraction of a normal lower wisdom tooth. The wound heals rapidly within 10 days with surprisingly little pain and considerable relief of the dysphagia. A careful inquiry into cases of amputation of the epiglottis did not produce any evidence to indicate that the operation interfered with the closure of the larynx in swallowing. The chief function of the upper portion of the epiglottis is to direct the current of air into the naso-pharynx during respiration, and it has been proved that it takes no part in the closure of the larynx during deglutition, hence the fear of aspiration pneumonia does not exist. Amputation of the epiglottis is performed for the relief of pain and to prevent extension of ulceration to the base of the tongue. In addition, the removal of an œdematous epiglottis greatly facilitates inspection and any intralaryngeal operation such as cautery puncture.

Galvano-cautery puncture and curetting frequently ease pain, more especially if the area so treated is painted with tincture of iodine before and after operation to eliminate as far as possible the addition of sepsis. When it is ascertained that a particular lesion such as the upper portion of the epiglottis is the cause of pain it is well worth removal—the relief given to the patient is truly remarkable. The distressing ulceration of the fauces and base of the tongue is improved by painting the lesion with tincture of iodine and insufflating with orthoform and anæsthetin powder. In the more chronic cases relief is given by "digging out" the ulcer with a sharp Heryng curette on a straight handle, and when accessible completely excising it and closing the wound by a stitch.

The diet is worth consideration in dysphagia, and patients learn to avoid acid drinks, spiced seasoned food, and condiments. Minced soft food of the porridge consistence is more easily taken. The position known as Wolfenden's, which depends on the gulping of food, gives practically no relief. Similarly, pressure on the ears is useless, but if the larynx is pushed upwards and firmly gripped to insure as little movement as possible a slight amount of relief is obtained.

The effect of the insufflation of powders such as orthoform and anæsthetin or morphia is transitory, and depends on the skill of the patient in getting the powder well into the larynx. An examination of most cases after insufflation with Leduc's tube reveals the powder in the pharynx and very little of it in the larynx. An attempt was made to apply light treatment to the larynx, either by artificial light or sunlight, a method advocated by French laryngologists, Drs. R. Alexandri, Collet, and Labouré. Artificial light or sunlight is projected on to a laryngeal mirror placed in the pharynx, and the larynx is exposed for short periods, as in a case of lupus of the face. Œdema of the larynx is a possible occurrence, but no opinion can be expressed on the method with such limited experience as already obtained. There is considerable difficulty in the details of application, and only the most tolerant and intelligent patients are suitable.

In conclusion, though it is a well-known and proved fact that the condition of the larynx depends on the extent of the disease of the lung and is a part of the pulmonary affection, yet these unfortunate patients are deprived of considerable relief and comfort by passive and expectant treatment. When the larynx is involved a vicious circle occurs, in which the dysphagia, sleeplessness, and cough produced by the painful lesion markedly increase the rapidity of the progression of the lung condition. The judicious removal by surgical methods of painful lesions undoubtedly relieves pain, and vigorous methods with careful research are needed to attack the much-dreaded laryngeal tuberculosis.

HEREDITARY OPTIC NEURITIS:

ELEVEN CASES IN THREE GENERATIONS.

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THIS affection, frequently known as Leber's disease and also by the synonym hereditary optic atrophy, was first clearly described by Theodore Leber in 1871. It is characterised by rapid loss of central vision, usually lasting some considerable time, and followed in a certain proportion of the cases by more or less spontaneous recovery of visual function. Both eyes are affected as a rule, either simultaneously or within a few days of each other. The loss of central vision is evidenced by a central scotoma usually absolute in character, the peripheral limits of the visual fields remaining normal in extent. Many of the cases regain full normal visual acuity after the attack, but even in these cases some deficiency of the light sense can usually be demonstrated by a comparison of the results obtained from the black and grey (Bjerrum) test types. A few cases, on the other hand, go from bad to worse, and vision may be permanently reduced to hand movements or the merest perception of light. Between these extremes a varying amount of useful vision may be regained by the sufferers, and this amount is probably influenced to some extent by the mode of life both before and during the course of the attack.

The condition is essentially one of inheritance and follows the type of a sex-limited disease in so far as males are very much more liable, transmission occurring usually through unaffected females. Nettleship, from examination of data derived from collected cases, concludes that: 1. A man with Leber's disease who has children seldom transmits it. 2. An affected female has generally, like an affected male, had both parents normal; it is rare to find that she had an affected father or an affected mother. 3. An affected female may transmit the disease to her children of either sex, but of her sons some usually escape; but although she does not

give the disease to all her sons she does give it to a larger proportion of her total issue than she would do if she only carried the disease latent. In this connexion Nettleship alludes to the difference in transmission between this condition and colour blindness, where *all* the sons of an affected female are colour blind, but rightly points out that while colour blindness is an innate physiological defect, in Leber's disease it is only the *liability* which is innate. Consanguinity takes no part in the production of the condition, and the only risk from a consanguineous marriage is where an affected male marries a cousin who herself carries the disease latent, deriving it either from her affected father or through her mother from an affected male of an earlier generation. The usual age incidence of the disease is from 15 to 25 years, although cases have been recorded as early as 5 and as late as 75 years of age. (Fig. 1.)

FIG. 1.

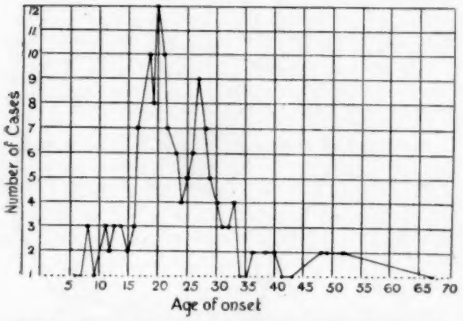


Chart to show age incidence of the disease (from 150 collected cases). Hancock: Royal London Ophthalmic Hospital Reports, vol. xvii., p. 175.

The pathology is obscure, no record of findings during the course of the attack having been made or as yet published. By some the lesion is regarded as an axial or descending neuritis set up by some toxic agency or periostitis in the neighbourhood of the optic foramen. Others, following the recent researches of Birch-Hirschfeld on the toxic amblyopias, regard it as primarily a retinal affection, and the resulting neuritis of the ascending type. Regarded from this point of view, the all-important predisposing cause of heredity would seem to imply an inherent instability of the neural elements of the retina, specially affecting the maculæ as the zones of chief activity and most highly specialised cells. It must be admitted, however, that no definite toxic agent has yet been discovered which would act as a specific exciting cause, but it would seem unnecessary to assume the existence of such, and probably any factor tending temporarily to depress the general vitality would serve in predisposed individuals to precipitate the attack. The connexion between this disease and early familial death has been pointed out, notably by Gould and Ogilvie, and with epilepsy by Hancock.

The diagnosis would depend chiefly on the discovery of similar cases in other members of the family or on tracing backwards through the female side of the genealogical tree. From retrobulbar neuritis it is distinguished by the absence of pain on pressure over the eyeball or on movements of the eyeball. Retrobulbar neuritis is frequently unilateral and runs its course towards recovery in a very much shorter time. The scotoma associated with it is also frequently relative throughout. Tobacco amblyopia is infrequent before the fourth decade of life, the scotoma is usually relative in character, and recovery, as a rule, rapidly occurs when the tobacco is stopped.

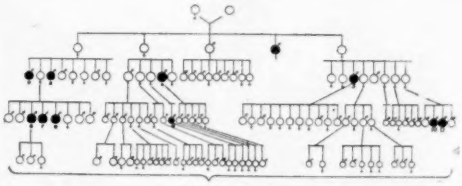
The ophthalmoscopic appearances during the attack are those simply of a mild neuritis, hyperæmia of the discs, fluffiness of the disc margins, and slight perivasculitis. The neuritis slowly subsides, and the signs of atrophy supervene, the discs becoming paler chiefly on the temporal sides. Some filling-in of the physiological cups and faint lines traceable some little distance from the disc along the vessels mark the increase of connective tissue following the inflammatory process. Some disturbance of pigment between the disc and macula has been observed in a few cases, and occasionally curious shimmering reflexes from the fundi mainly along the course of the vessels have been noted a long time after the attack. In one case (No 10) observed by the author minute macular changes were also observed at the beginning of the disease.

The prognosis as to complete recovery of vision in a given case must be extremely guarded, but as regards retention of a useful amount of vision would appear to be good, and even in the worst cases perception of light has been retained. It is necessary to bear in mind, however, that improvement of vision rarely begins before six months from the start of the disease and has been delayed as long as three years.

With regard to treatment, it is doubtful whether the course of the disease is modified to any appreciable extent by drugs or other form of treatment. The neuritis, of course, will demand the use of dark glasses and the inhibition of all eye work. Measures directed to the maintenance of the general health, together with the avoidance of all injurious indulgences—e.g., sexual excess, alcohol, tobacco—will be required, and possibly the degree of ultimate visual recovery will be favourably influenced by small daily doses of the liquor strychninæ hydrochlor.

The symptoms and clinical course of the affection are well illustrated by the series of cases reported below (which are also shown in the family chart). Of the total number of affected cases it has only been possible to make a detailed personal examination of four, which are given first; the information regarding the others has been obtained from relatives, and is necessarily of an incomplete and probably inaccurate character.

FIG. 2.



Family chart.

CASE 10.—Male, aged 19, attended Moorfields Hospital on Sept. 23rd, 1912. He complained that his sight had become very bad, and that he had been obliged to give up his occupation on this account. He stated that towards the end of May he first noticed a misiness of his left eye, which in a few days became so pronounced that he was unable to read large type with that eye, although he observed that the vision all round the object fixed seemed quite clear. About a fortnight later the right eye became similarly affected, and his vision was so reduced that he could not trust himself to go out alone. As no improvement manifested itself he was finally advised to come to hospital.

The patient is a fairly tall, well-nourished, but somewhat sallow-looking youth. He had never been a pipe smoker, but used occasionally to indulge in a few cigarettes, which indulgence he gave up entirely when his sight became affected. He is practically an abstainer and has always enjoyed good health. His circulation, however, is poor, and he suffers much from cold hands and feet and chilblains during the colder months of the year. Nervous system normal; urine normal. There is no history of consanguinity in the parents, and no epilepsy in any member of the family. Blood pressure and coagulation were normal. He admits having masturbated before his eyes became affected, but has since that time discontinued the practice.

Vision, right and left 2/60, excentric fixation. Pupils react promptly to light and accommodation, but contraction to the former is not well maintained, the pupil after oscillation remaining in a semi-dilated condition. The visual fields were charted and revealed an absolute central scotoma surrounded by a partially scotomatous area extending to about 15° from the centre in each eye. The peripheral limits of the fields for white were normal. (See field charts.) The ophthalmoscopic appearances were simply those of a mild neuritis - slight hyperæmia of the discs, fluffy margins, and slight perivasculitis. Very fine macular changes evidenced by minute lighter areas of the choroid were also observed.

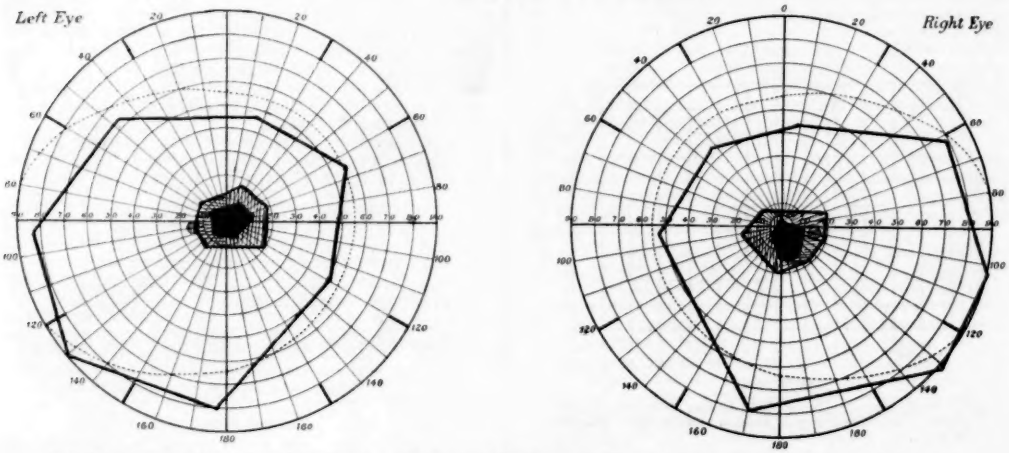
The patient when seen recently—i.e., about 15 months from the start of the disease—showed no improvement in central vision, but the ophthalmoscope now reveals the pallor of slight atrophy of the discs, chiefly on the temporal sides, the inflammatory process having now quite subsided. The treatment adopted and still persevered with is small daily doses of liq. strychninæ hyd., with attention to matters affecting the general health. Dark glasses were also prescribed.

CASE 9.—Male, aged 35. Examined personally. Affected at 14 years of age. The left eye was first attacked, the right a few days later. He first noticed that he could not see the time on a station clock when standing close beneath it. He had always had good health; not a smoker; no constipation; never masturbated. The pupils responded quickly to light and accommodation, but reaction to the former was not well maintained. Vision right and left 6/6. Bjerrum type, right, 6/9 ptly, self 6/6; Bjerrum type, left, 6/12 ptly, self 6/6. The discs on ophthalmoscopic examination were found to be somewhat pale, and the physiological cups were slightly filled in. The vessels were of

good size. The visual fields were full, no scotomata being found, but the patient occasionally confused green and blue colours in a test object of 1 millimetre square held half a metre from each eye.

CASE 7.—Male, aged 40. Examined personally. Affected at 32 years of age. The left eye was first attacked, the right a fortnight later. He found he could not read large type a few days after the eyes were attacked. Vision steadily deteriorated for two years, and now after eight years from the start of the disease is so bad that he has to be led about. About the time of the attack he used to smoke one ounce of shag weekly and was a moderate drinker. He, however, gave up these habits soon after the disease manifested itself. He had an attack of influenza one month before his eyes became affected. The patient is a healthy looking man. The pulse is slow; he suffers much from cold extremities. Since his eyes became affected he has had three attacks of suddenly falling down

FIG. 3.



CASE 10.—Fields for white. Test object 10 m.m. Showing central scotoma, surrounded by partially scotomatous area. Peripheral limits of the fields normal.

without losing consciousness at intervals of about three years. Vision right and left, hand movements. The pupils reacted well, but contraction to light was not maintained, the pupils after oscillation remaining in a semi-dilated condition. The optic discs were found to be markedly pale all over, and the physiological cups were more or less filled in. The vessels were rather small. No macular changes were observed.

CASE 11.—Male, aged 17. Examined personally. Affected at 9 years of age. The sight was bad for 12 months and then rapidly improved. The patient is a stout, ruddy, and well-nourished youth. He suffers nearly all the year round from chilblains and cold feet; otherwise he has always enjoyed very good health. He is an abstainer and only smokes a few cigarettes a week. No constipation; nervous system normal; urine normal. Vision, right and left, 6/6 nearly. Bjerrum type, right, 6/36, self 6/6; left, 6/60, self 6/6. The discs were found somewhat pale, chiefly on the temporal sides; the vessels were of good size, but faint white lines could be traced along these for some little distance from the discs. The physiological cups were slightly filled in. Marked shimmering reflexes were seen all over the fundi, but more marked over the course of the vessels. No macular changes were observed. The visual fields were taken. No definite scotomata were found, but the patient was apt to confuse blue and green colours in test objects of 1 millimetre square held half a metre from each eye. The peripheral limits were normal. The marked deficiency in the light sense was manifest to the patient himself, for he stated his inability to follow for any time a bird on the wing or aeroplane in motion against the background of the sky.

CASE 1.—Male, dead; information scrappy. Was unmarried. Age when affected not known, but supposed to be late in life. He was drowned through walking inadvertently into a pond when about 60 years of age.

CASE 2.—Male, aged 64, affected at 25 years of age. Nothing is known as to the present condition of his vision.

CASE 3.—Male, aged 62, affected at 23 years of age. Nothing is known as to present condition of vision.

CASE 4.—Male, aged 50, affected at 24 years of age. His sight is stated to be bad now, he not being able to do anything.

CASE 5.—Male, aged 56, affected at 15 years of age. His sight is said to be much better now.

CASE 6.—Male, aged 44, affected at 30 years of age. He is said to be blind now.

CASE 8.—Male, aged 30, affected at 17 years of age. He cannot follow his occupation, but can now read large type.

Summary.—All the 11 affected individuals were males. The age incidence varied from 9 to 32 years. Of the four cases personally examined two had regained practically normal vision, but leaving some deficiency in the light sense, especially in Case 11; one case (10) is still under observation; and in one (7) the vision is reduced to hand movements close to the eyes. Of the remaining six living cases nothing is known of the present visual condition of two, one is stated to be blind, and the sight of one bad, while improvement has occurred in two cases. It is noteworthy that in all the cases where visual power was completely regained or had partially recovered the age incidence of the disease was below 20 years. This would seem to have a bearing on prognosis. In conclusion, my thanks are due to Mr. M. L. Hepburn for permission to publish the notes of Case 10.

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Harley-street, W.

A NOTE ON A CASE OF PELLAGRA.

BY EMMA M. JOHNSTONE, L.R.C.P. & S. EDIN., D.P.M. CAMB.,

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SINCE the study of pellagra has become of practical importance to asylum physicians in this country it may be of interest to record a case occurring in this hospital and presenting many features identical with those mentioned by Dr. Gurth S. Blandy in his contribution to THE LANCET of Sept. 6th last. The dermatitis appearing after a short exposure to hot sunshine, together with the alimentary and nervous symptoms, appeared significant, and the diagnosis was confirmed by Dr. S. A. Kinnier Wilson, who saw the patient early in August.

The patient was admitted into the Holloway Sanatorium in September, 1911, suffering from melancholia with delusions. She was very thin, but presented no definite physical signs of disease, speech, gait, and reflexes being normal. She had previously been in St. Luke's Hospital from March to September, 1910, suffering from mania. During her stay at the Holloway Sanatorium her mental state varied between mild exaltation and depression. In the summer of 1912 the delusions became more marked and chiefly of an organic nature—i.e., that the abdomen was filled, bowels never opened, &c., and she protested constantly that she was too fat, though she was getting thinner. Early in 1913 she

began to refuse food and complained of abdominal pain, probably due to an enteroptosis. Her general condition became worse and she was put to bed. In April, 1913, a severe stomatitis developed, the floor of the mouth, the under surface of the tongue, and the lips being covered with flat white patches. She coughed frequently with profuse purulent expectoration, and on examining the sputum a non-Gram-staining diplococcus was found, but no tubercle bacilli. No definite signs were found in the lungs at this time, but a month later a small patch of dulness with rhonchi and moist sounds appeared in the right second space. This subsequently cleared up and the cough desisted. Meanwhile the patient had become extremely emaciated. She had incontinence of urine and fæces, and suffered much from delusions of fear and visual hallucinations. Towards the end of May she was out in the sunshine and developed characteristic skin lesions of the face and hands. A symmetrical area, sharply defined and comprising the centre of the forehead, the nose, and the lips and chin, became brownish-red, painful, and blistered. The whole of the dorsal surface of both wrists and the hands and fingers became bright red, swollen, and œdematous, with several blisters of the size of a half-crown piece, the affection also extending like a bracelet round the palmar surface of the wrist and more markedly on the radial side. Both face and hands had the appearance of being severely burnt. The swelling subsided in a few days and the patches slowly healed, but remained dark red and continued to desquamate, a process which still continues, the skin being now thickened and discoloured. The face has practically recovered its usual colour, but there is a severe seborrhœa round the nose, lips, and chin. There has also been a slight folliculitis on both legs, and during the last few weeks a small patch of dermatitis has appeared on the right elbow and the left external malleolus. Diarrhœa set in about the same time as the skin

FIG. 1.

From a photograph taken on Sept. 15th showing the general aspect and emaciation of the patient and condition of face and wrists.

lesions, and since July has been continuous. With regard to the nervous system, the gait is ataxic and stamping, the knee-jerks are unequal, but other reflexes are normal. The patient complains of burning sensations all over.

Previous history.—The patient had always been of a variable and hysterical temperament. She was born and brought up in Crookham, a village near the Basingstoke canal, and this place has continued to be her home, though she has also lived in Bristol, London, and Cardiff, in the last-named place about three years ago. She has never been abroad, has never eaten maize so far as is known, and neither during her stay at St. Luke's Hospital nor when at home were any physical symptoms observed such as are now recorded. Up to the time that mental symptoms began to appear she was well nourished. No similar cases have been found near her home, but dermatitis resembling hers occurred in two other patients here, as recorded below.

FIG. 2.

From a photograph taken on Sept. 15th of the dorsal surface of the hands and wrists.

Dr. W. Rees Thomas's letter to THE LANCET of Sept. 13th last prompts me to add that the patient has taken neither sulphonal nor trional.

The photographs were, unfortunately, not taken till the skin lesions were disappearing, but Fig. 1 shows the general aspect and the emaciation, with the edge of the affected area on the forehead and the palmar surface of the wrists. Fig. 2 shows the rough and scaly condition still persisting on the dorsal surface of the hands.

The two other cases mentioned occurred in 1912. The first was that of a woman, aged 49, a dement, who had been in the Holloway Sanatorium for 15 years. In May, 1912, the dorsal surface of her hands became severely sunburnt and blistered, desquamation subsequently taking place. At the same time diarrhœa set in, and it gradually became more severe till the death of the patient in July, 1912, the skin being still affected at that time.

The second case was that of a female patient, aged 46, who suffered from chronic excitement with delusions. She had been in the Holloway Sanatorium for two years. During the summer of 1912 her hands were severely sunburnt and blistered, large areas of skin coming away and leaving raw, painful surfaces which slowly healed. She was transferred in the autumn of 1912 to another asylum, where, I am informed, she has shown no further trouble of the kind. While at the Holloway Sanatorium she had taken sulphonal from time to time in 20-grain doses, but not for more than four days at a time, with long intervals.

There has been no incidence of disease, accompanied by sore mouth, among the pigs belonging to the sanatorium.

In conclusion, I wish to express my thanks to Dr. W. D. Moore for permission to publish this record of cases under his care.

Holloway Sanatorium, Virginia Water.

TWO CASES OF CERVICAL RIB WITH VASCULAR SYMPTOMS.

BY E. D. TELFORD, F.R.C.S. ENG.,
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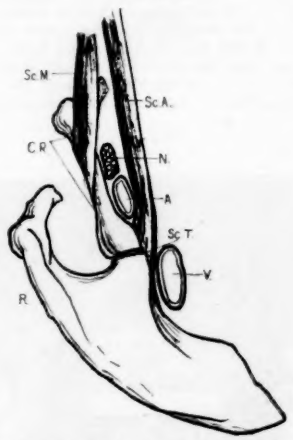
THE symptoms associated with a cervical rib which is causing pressure are in the majority of cases nervous in type with complaint of pain and wasting of muscle. There occur, however, from time to time rarer cases in which the symptoms are vascular, and in these cases the customary nervous symptoms are slight or entirely absent.

Whilst the features of the commoner class are now fairly well known the explanation of the cases with vascular symptoms has hitherto been conjectural and unconvincing. Pressure on the subclavian artery due to the underlying rib or to action of the scaleni muscles, for long tacitly accepted as an explanation, has been shown to be without foundation. Todd, in a series of important papers on this subject, has suggested an explanation of these vascular symptoms, and I venture to report the two following cases, partly because they are those on which much of Todd's work is based, and partly because the interest of his writings has led some critics to comment on the absence of clinical and therapeutic detail from his papers. Whilst I do not feel myself competent to express any opinion on the more academic aspect of the question, I wish to place these cases on record as a contribution to the clinical side of a most difficult and interesting subject.[1]

CASE 1.—The patient, a man aged 27, was admitted to the Manchester Royal Infirmary on March 13th, 1912. He gave the following history. Twelve months before admission the patient, who is right-handed, noticed that the right index finger was numb and white. This condition gradually extended to the thumb and middle finger, and eventually by the end of the year had involved the whole of the hand. About this time he began to suffer severe neuralgic pains along the ulnar border of the forearm and hand. The limb was entirely disabled and was carried in a sling. On examination of the limb one was struck by its pallor and coldness, the whole arm resembling that of a corpse. Circulation was hardly to be perceived in the limb, and there was no pulsation in the radial, ulnar, or brachial arteries below a point one inch distal to the anterior axillary fold. The pulseless arteries could be felt as solid rounded cords. The vitality of the limb was obviously trembling in the balance and appeared to depend on the following vessels which had undergone some degree of compensatory enlargement: (1) a small artery arising from the brachial close to its commencement and running under the biceps; (2) a small subcutaneous artery running across the back of the arm midway between the deltoid insertion and the olecranon process; (3) a well-marked vessel, probably the enlarged inferior profunda artery, to be felt behind the internal condyle at the elbow; (4) a small artery palpable below and external to the dorsal radial tubercle. The pulse in the subclavian and axillary arteries was equal in volume and time to that of the unaffected left side. Beyond a slight wasting of the hypothenar eminence and some neuralgia of the ulnar side of the forearm and hand there were no symptoms of pressure on motor or sensory nerves. Tactile, temperature, and pain sensations were normal, and there were no trophic lesions. The case was one in which the vascular symptoms completely overshadowed the motor and sensory signs. At the root of the neck the subclavian artery was seen to be thrust forward and its pulsations were very obvious. Palpation showed that the artery and nerves were lying over a distinct bar of bone which proved in a radiogram to be a very well-developed cervical rib articulating with the first dorsal rib at a point about its middle. A small, less developed rib was present on the left side. There was nothing of importance in the man's previous history, and he presented no signs of syphilis.

Operation.—On the following day with the patient under chloroform an incision, three inches long, was made along the hinder border of the right sterno-mastoid, the lower end of the incision reaching to the clavicle. From this point a second incision of equal length was carried outwards along the clavicle. A triangular flap of skin with its apex at the junction of the incisions was reflected in an upward and outward direction. The external jugular vein was retracted without trouble, and the hinder edge of the sterno-mastoid and the omo-hyoid muscle were identified. The position of the subclavian artery was at once apparent, and as an exact knowledge of its condition was one of the objects of the operation it was very carefully displayed with a minimum of disturbance to the surrounding structures. It was then evident that a complete cleaning of the artery was quite without effect on its shape, size, and pulsation. The artery showed so free and tortuous a curve over the underlying rib that it was quite impossible for it to have been exposed to pressure, and free movement of the arm showed that it was not compressed in any position of the limb. The cervical rib was then cleared after retraction of the artery and lowest nerve cord and the freeing of the scaleni attachment. The rib was cut across posterior to the nerve and removed by cutting through the base of the broad process from the first rib to which it was articulated. The joint was thus removed intact and proved to be a well-formed articulation, with a synovial membrane and a strong capsule. The wound was then closed without drainage. The relationship of the parts is shown in the accompanying sketch (Fig. 1), which was made by Professor Todd at the time of operation.

FIG. 1.



Sketch showing relationship of parts in Case 1 from sketch made by Professor Todd at time of operation. SCM, Scalenus medius; SCA, Scalenus anticus; SCT, Scalene tubercle; CR, Cervical rib; R, 1st complete rib; N, Nerve; A, Artery; V, Vein.

There was some diffuse pain in the arm for a few days after the operation. This passed away, and the wound healing by first intention the patient left the hospital in ten days, at the end of which time he had lost his pain, but there was no evidence of any other material change in the limb.

Present condition (September, 1913).—The arm has made a very complete recovery. There is no pain in the limb, sensation is everywhere normal, and the appearance of the arm and the circulation in the nails are quite natural. Muscular development is good, the upper arm and forearm measuring one quarter inch more in circumference than its fellow, and the man uses the arm daily to carry bags and packages in his work. The subclavian artery retains its strongly marked arch and pulsates with unusual prominence in the neck. The pulse in the main vessel can be felt to the level of the inferior profunda artery, and there ceases, no pulse being perceptible at the front of the elbow. The inferior profunda artery can be traced down to the internal condyle of the humerus, pulsating strongly and of the size of a normal radial. The most noteworthy point in the case is that the pulse began to return, faintly at first in the radial artery, four months after the operation, and has since gradually increased in volume, until now the radial and ulnar pulsation is but slightly less than that of the left arm. In short, the examination of the arm shows that subjectively

[1] THE LANCET, May 17th, 1913, p. 1371.

and objectively it is in no way different from a normal arm save only in the lack of pulse in the lower part of the brachial artery.

CASE 2.—The patient, a woman aged 29, was admitted to the Manchester Royal Infirmary on Sept. 16th, 1912, complaining of deadness and loss of use in the right arm. She was a weaver and was right-handed. The first sign of the condition was numbness in the tips of the index and middle fingers which came on six months before admission. The index finger became very painful, and in July a large portion of its pulp became gangrenous and exfoliated. In the first week in August the whole hand became cold and numb, and by the third week of this month pulsation in front of the elbow was lost. The hand was cadaveric in appearance. The radial, ulnar, and lower part of the brachial arteries showed no pulsation and gave the feeling of solid cords. The pulse ceased at the level of the coraco-brachialis insertion, but from this point upwards the arteries were normal. No enlarged collateral vessels were found. There were no wasting or affection of muscle and no sensory symptoms whatever. Tactile, pain, and temperature sensations were normal. The patient was of spare build, and the cervical rib could be plainly felt, together with the artery pulsating strongly on both proximal and distal sides of the rib. A radiogram showed a well-developed cervical rib on both sides of the neck. There was nothing noteworthy in the previous history, and there was no evidence of syphilis.

Operation.—This was carried out on exactly the same lines as in Case 1. It was quite plain that there was no pressure on the arterial trunk. The cervical rib was of considerable size, and showed a well-marked groove on its internal border and upper surface. The shape of the rib and the extent of bone excised are shown in the sketch. (Fig. 2.) A small portion of the radial artery was removed for examination, and the condition of this vessel has been fully reported elsewhere. The wound healed by first intention, and the woman was discharged in ten days.

FIG. 2.

Reconstruction of Cervical rib in Case 2. Portion removed shown by thick lines. A, Groove for artery and nerve.

After-history.—I have seen this patient on many occasions since her discharge from hospital. The condition of the arm has steadily improved, and for the last six months she has been at her work as a weaver. She tells me (September, 1913) that she has nothing whatever to complain of and can do her full work without any trouble. She has noticed that the finger tips "feel the cold" more than those of the left hand. The muscular development and strength of the limb are normal; there are no pain and no loss of sensation. The circulation of the limb is good and the nails are pink in hue, the colour returning at once when tested by pressure. The pulse ceases at the middle of the upper arm, and neither pulse nor any enlarged collateral vessel can be found below this point. It is interesting to note that although the rib has been removed the subclavian artery is still unusually prominent in the neck and has not lost any of its prominent arch.

Manchester.

HUNTERIAN SOCIETY.—The next meeting of this society will be held (by permission of the authorities) in the Library of St. Bartholomew's Hospital at 9 P.M. on Wednesday, Oct. 22nd. The President of the society, Dr. W. J. M. Ettles, will give an address, and this will be followed by a pathological demonstration by Dr. A. S. Woodwark. All members of the profession are invited to attend. Competitors for the annual silver medal are reminded that the latest date for sending in essays for the present competition is Dec. 31st. The medal is given for the best essay by a general practitioner, embodying the results of his own observations. The competition is open to all registered general practitioners resident within Great Britain, Ireland, and the Channel Islands, whether Fellows of the society or not. Full particulars may be obtained from the honorary secretaries, Dr. O. K. Williamson, 21, Bryanston-street, W., and Mr. E. Maynard, 55, Oxford-terrace, Hyde Park, W.

THE TREATMENT OF ANKYLOSTOMIASIS.

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THE treatment of ankylostomiasis as laid down in the ordinary text-books is a simple matter. Starvation and the administration of anthelmintics with purgatives are the usual means recommended, little or nothing being said as to the great difficulty, in many cases, of getting the drug to act or as to the length of time it takes to get rid of the parasites.

In the wards of the Tan Tock Seng's Hospital in Singapore numerous cases are seen in which the ova of the ankylostome occur in the fæces. A large number of these, it is true, suffer from other diseases as well, but one is convinced that Watson,[1] in a recent utterance, certainly under-estimated the importance of this condition in Malaya—at least, as far as Singapore and Johore are concerned; and in treating such cases one found that the usual methods of administering the ordinary anthelmintics were useless in all but the mildest cases, and that in anything like severe infections it was necessary to adopt more persistent and strenuous measures. In dealing with natives the great difficulty in treating this, as well as any other disease is to get the patient to stay sufficiently long in hospital to give any method an adequate trial. After a few days of rest the patients feel better and demand to be allowed to go. If they do not get permission they at once abscond, and more especially if a particularly nauseous medicine is administered. In one instance a stock mixture of thymol, bismuth carbonate, mucilage, and water was made up, the idea being that the bismuth would help to retain the thymol in the upper part of the intestine longer than would otherwise be the case. During the few days this was being employed, patients to whom it was being given were clamouring to be allowed to go, and some absconded after a few doses.

From a study of the notes of 70 cases which remained long enough in one's wards to enable one to draw conclusions as to the results of treatment, it appeared to be evident that a point of great importance is the percentage of hæmoglobin in the blood. Sahli holds that there is no *normal* for hæmoglobin in man, and that considerable variations in healthy subjects occur. There can be no doubt that such is the case, and it was therefore considered advisable to come to some conclusion as to what might be taken as a standard amongst natives in Singapore. The percentage was estimated in 28 healthy students by means of Sahli's and Dare's hæmoglobinometers, and it was found that the average obtained by Dare's instrument was 74·6 per cent., and by Sahli's 81·7 per cent. In a series of 68 patients suffering from various diseases Dare's hæmoglobinometer gave an average of 48·7 per cent., while Tallquist's scale gave 51·5 per cent. In another series of 12 patients the figures were—Sahli, 36·5 per cent.; Dare, 39·6 per cent.; Tallquist, 45 per cent. On the whole Tallquist's scale gives a higher reading than the others. In 28 cases, where the only pathological condition which could be detected was ankylostomiasis, the lowest percentage, as estimated by Sahli's instrument, was 10, and the highest was 75. The average was 40 per cent. (All the estimations were made by the writer.)

As regards treatment, one concluded that if the percentage of hæmoglobin is in the neighbourhood of 60 it may be reckoned that with suitable treatment the ova will disappear in the course of a few days. With a percentage of between 45 and 55, treatment will be more difficult. Anything below 40 per cent. will indicate that great patience will have to be exercised before recovery can take place; it will not be a question of weeks but of months, and this is certainly so when we get as low as 10–20 per cent. of hæmoglobin. Several of these cases with a very low hæmoglobin index have been under one's observation and treatment for months. It is true that the general condition improves with rest and diet. As a rule, the œdema soon disappears and the patient feels better, but the ova, though they decrease in number rather quickly at first and then more gradually, do not disappear entirely for months, while the hæmoglobin index remains persistently about its

[1] See Transactions of the Society of Tropical Medicine and Hygiene, vol. vi., No. 3, p. 92.

original level. Particulars of a few cases will serve to illustrate this point.

CASE 1.—A Chinese male about 30 years of age. On May 21st, 1912, he was admitted to hospital and up to July 24th had been given four doses of thymol and eight of eucalyptus in the usual way. On July 26th he came under the present writer's charge, and was given an emulsion containing 30 grains of thymol and 30 grains of bismuth carbonate for a dose the first thing every morning. On the 31st the ova were much reduced in number. On August 10th the thymol was stopped and a pill containing 1 grain of methylene blue was given four times daily. On the 17th a few ova were still present. On the 21st 1 ounce of an emulsion of eucalyptus oil (30 minims to an ounce) was given daily in the morning. On Sept. 14th a few ova were still seen. On this day he got a few hours' leave and did not return.

The hæmoglobin estimations gave the following results:—July 23rd: Tallquist, 30. August 8th: Tallquist, 30. August 29th: Tallquist, 35; Dare, 20. Sept. 14th: Tallquist, 30; Dare, 25. The œdema, which was very marked on admission, had completely disappeared by the time he left, but the hæmoglobin index remained unimproved.

CASE 2.—A Chinese rubber coolie about 40 years of age. He was admitted on June 16th, 1912; on the 19th ova were found. On July 3rd he came under the writer's care; thymol was given. On the 9th eucalyptus oil was given in the usual way recommended in books. On the 18th the stools still contained many ova, and still did so on the 29th. On August 12th the hæmoglobin (Tallquist) was 20 per cent. On the 17th bismuth and thymol mixture was given, an ounce every morning. After three days he absolutely refused to take any more. On the 19th the hæmoglobin was: Tallquist, 20 per cent.; Dare, 10 per cent. On the 21st one ounce of mist. eucalypti (30 minims to the ounce) was given every morning. On Sept. 2nd one ovum was seen in a field on an average; and on the 23rd one ovum in every three fields on an average. On Oct. 2nd an average of seven ova were found in a slide, and the same average was present on Oct. 10th and Nov. 14th and 21st.

On Nov. 21st the hæmoglobin remained as at the first estimation. Unfortunately, one had to go on leave for a time, and on returning the patient had gone. It will be seen, however, that though he was receiving fairly energetic treatment for several months the hæmoglobin had not improved, though the œdema had gone, and he was looking and feeling better; ova could still be found in considerable numbers.

CASE 3.—A Chinese male about 40 years of age. He was in hospital for a week in the beginning of September, 1912, but absconded. At that time his hæmoglobin index was 20 per cent. according to Talquist's scale, and 10 per cent. by Dare's hæmoglobinometer. On Oct. 1st, 1912, he was readmitted suffering from anasarca and grave anæmia. His hæmoglobin was 10 per cent. according to Sahli's and Dare's instruments. Numerous ankylostome ova were found in his fæces and also those of ascaris lumbricoides. There was albumin in his urine, but no casts. On Oct. 2nd mist. eucalypti (30 minims to an ounce) was given, one ounce every morning. On the 5th santonin 10 grains, followed by mist. sennæ co. On the 9th no round-worm ova were found, and ankylostome ova were much fewer. On the 17th there were about 20 ova in a slide; on the 24th about 12 ova in a slide. On the 28th the œdema was gradually decreasing. On Nov. 4th about 15 ova in a slide; eucalyptus stopped; thymol 30 grains. On the 11th thymol 30 grains; 7 ova in a slide on an average. On Jan. 20th, 1913, ankylostome ova were present; also round and whip-worm ova. On the 25th santonin 5 grains. On Feb. 4th ova were still present. Hæmoglobin, Talquist, 35 per cent.; eucalyptus stopped; beta-naphthol 30 grains in powder, followed in an hour by mist. mag. sulph. every morning. On the 10th there were no ova; on the 20th two ova in a slide. On March 3rd there were no ova. On the 10th there were two ova in a slide; he was much improved and able to do light work.

The cases could be multiplied. It is by no means easy to say what the delay in getting rid of the ova from the stools is due to. It appears to be possible that, after all the worms have been killed and expelled, ova may still linger about the intestine. In this connexion the case of a Tamil may be cited. This man suffered from ankylostomiasis and was treated with eucalyptus for this, but died from another condition. Six days before his death about five ova on an average were found in a slide, while at the post-mortem examination only very few worms were found lying about the lower part of the jejunum and no "bites" were seen. There seems to be little or no ground for doubting that the usual anthelmintics kill the worms readily when they can reach them. In one case in which eucalyptus oil had been given in the form of mist. eucalypti, at a necropsy performed soon after death the intestinal contents smelt strongly of eucalyptus and the worms were found lying dead in large numbers in the lumen, though a few were still alive. It is conceivable that the ova may remain for some time in the folds of the large intestine, but they would be unlikely to do so for months. The possibility, of course, must strike everyone who has had much experience of this disease that, though there may be no fresh infection, the embryos may not have completed their circuit from the skin to the intestine at the commencement of treatment, and that fresh invasions may continue to reach the bowel by way of the trachea and œsophagus for some time afterwards.

One point having a bearing on the difficulty of treating these cases is the presence of a thick layer of mucus in the upper part of the intestine in severe cases of this disease. This indubitably must help to protect the worms against the anthelmintic. The subsequent treatment, after we have got the worms largely if not entirely expelled, is very difficult and requires great patience. Intensely fatty structures such as we find in this disease cannot be expected to return to a healthy condition quickly, and we must have patience while the fat is being absorbed and the tissues are returning to a healthy state. From recent results one has come to the conclusion that beta-naphthol in 30-grain doses the first thing every morning is likely to prove more effectual than eucalyptus or thymol. The necessity for starving patients while the treatment is being carried out is by no means evident; indeed, in bad cases it may even be harmful. More especially is it unnecessary if the drug is given the first thing in the morning. There will not be much food found in the upper part of the small intestine five or six hours after an ordinary meal, so that if the drug be given the first thing in the morning there is no necessity for starvation. It is true that large doses given frequently of these drugs are apt to irritate the mucosæ of the stomach and intestines, but that is no reason why we should refrain from employing them in this way. Energetic treatment is needed, and I have never seen any ill-effects follow from such measures.

Singapore.

THE TREATMENT OF INFECTIONS BY MEANS OF FIXATION ABSCESSES.

BY DR. DE LOSTALOT.

MORE than thirty years years ago Fochier introduced the method of treating infections by the formation of a "fixation abscess," but it has not been very widely employed, at least in the British Isles. Those who have used it, however, consider it to be of very great value. As to its mode of action it has been suggested by M. J. Carles, of Bordeaux, that as the pus in a fixation abscess is sterile, for it contains only dead microbes, the abscess attracts micro-organisms from the blood, and that they are killed when they arrive there, though it is certain that in some cases living germs are to be found in a "fixation abscess." As the mode of action is up to the present by no means certain it is best perhaps to acknowledge that the method is really empirical, though of great value.

I am very anxious to extend more widely the use of this method of treatment, and therefore in this paper I am giving an account of the procedure and the conditions in which it is likely to be of use. Certain complications have been attributed to this method, such as pain, separation of the skin, and secondary infection of the abscess, but these when they occur are really due to the mode in which the treatment is applied and not to the method itself, for if the treatment is properly carried out they do not occur. It is of the greatest importance that time should not be lost in trying other methods before employing this; it is far better to form a "fixation abscess" and then the other methods can be used as well. The cases in which it may usefully be employed are the following: puerperal septicæmia, infectious pseudo-rheumatism, pneumonia, appendicitis, typhoid fever, and similar conditions.

The method of forming a "fixation abscess" is as follows. Two cubic centimetres of pure essence of turpentine are injected under the skin in the gluteal region. In a case of appendicitis it is important to keep as far away from the abdominal wall as possible in case an operation may become necessary later. It is hardly necessary to say that the most rigorous asepsis must be employed in making the injection. A sharp pain will follow at once, but this may be immediately relieved by the application of a hot fomentation. At the end of three days, or of four at the most, the abscess will have formed sufficiently. There is no need of a large collection of pus for the production of a phagocytosis. I have often noticed a lowering of the temperature before the formation of the abscess. A small incision, from 2 to 5 centimetres in length, should then be made to evacuate the pus, but the abscess must not be drained, and twice a day a Bier's cup should be applied. At the end of a week the abscess will be healed and the patient will be cured.

CASE 1.—This was a case of rupture of an infected extra-uterine pregnancy. The patient, 19 years old, showed signs of endometritis and salpingitis shortly after her marriage. Two months later menstruation ceased; a month later still slight menorrhagia occurred, the blood being accompanied

by sharp abdominal pains. The discharge of blood lasted three weeks, and during this time the general condition of the patient was far from good; she had slight febrile attacks; the temperature was 38° C. in the evening, with daily rigors. On vaginal examination a mass of about the size of the fist was found in the left fornix, and a diagnosis of pyosalpinx was made. The patient was kept in bed; hot douches were given, and an ice-bag was placed on the abdomen. At the end of ten days the swelling had much increased in size, and the evening temperature was 39°. The abdomen was opened, and the pelvis was found filled with clots. These were evacuated, and the left ovary and tube were removed and a drainage-tube was put in Douglas's pouch. After the operation the temperature did not improve, but increased somewhat. Three days later it was 40·5° in the evening and 39·5° in the morning; the pulse was 130, and there was diarrhœa. Examination showed that there was no accumulation of pus in the abdomen; the pus from the wound showed a large number of staphylococci and streptococci, so that evidently there was an infection of the blood. As the situation was critical I proposed to the family to make one or more fixation abscesses. Two cubic centimetres of essence of turpentine were injected under the skin of the left buttock, and by the fourth day the abscess was formed. On the same day the temperature, which was 40·7°, fell to 38·5° in the evening. On the morning of the fifth day the abscess was opened, and the pus evacuated showed an abundant leucocytosis and staphylococci. Two days after the opening of the abscess the temperature fell to 37·5° and the pulse to 100; the abdominal wound cleaned, and 12 days after the making of the fixation abscess the patient was able to get up.

CASE 2.—In this case there had been suppuration of the middle finger, and though it was incised there was lymphangitis of the arm and great enlargement of the glands in the axilla, with a temperature of 39·5° C., rigors, diarrhœa, profuse sweats, and albuminuria. At this stage the patient first came under my care. The finger was amputated, electrargol was injected, and the limb was fomented and at intervals was placed in an antiseptic bath. In spite of this treatment the fever increased, and rigors occurred with night sweats; the pulse was 130, and phlegmasia alba dolens of both lower limbs appeared. Two cubic centimetres of essence of turpentine were injected, and on the fourth day the abscess had formed; it was incised and the pus was aspirated with a Bier's cup. On the very evening of the incision the temperature fell to 38° and it did not again rise above this level. With the fall of the temperature the diarrhœa and the sweats disappeared, and it is especially interesting to note that within five days of the incision of the fixation abscess the swelling of the lower limbs disappeared, and in a fortnight of the incision the patient was able to go out.

CASE 3.—In this case the patient, a man, had an attack of typhoid fever with severe septicæmic symptoms. The diarrhœa was profuse, and there was much delirium; the temperature was 40·5° C., the pulse was 130, and pneumonia developed at the base of the right lung. On the twentieth day the left leg became much swollen, and the patient was then seen by Dr. Vaquez, who gave a very grave prognosis, saying that death would probably occur soon. On that day I injected essence of turpentine. Four days later the abscess was incised and the pus evacuated with a Bier's cup. The pus showed a great leucocytosis but no bacteria. During the following five days all the symptoms improved, the swelling of the leg diminished, and ten days after the injection it had almost disappeared. In the same time the signs of pneumonia disappeared also, and 35 days after the beginning of the disease the patient was convalescent.

In all I have had 18 cases, and since my first use of the method at Biarritz many of my *confrères* have employed it when suitable cases have presented themselves, and they have had equally satisfactory results.

I wish to lay stress on the value of the method and to urge that it deserves to be more widely known. It should be employed not merely in exceptional cases but in any case in which a patient with an infection appears to be taking a turn for the worse. It does not possess any of the dangers which have been attributed to it, it causes but little pain if given correctly, and it does not need the assistance of a surgeon.

Biarritz.

HEMIPLEGIA FOLLOWING SYPHILIS.[1]

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Sir William Gowers has reported a case in which hemiplegia occurred three months after the primary infection, and another case is described in which hemiplegia occurred six weeks after the first appearance of the disease. It is important, therefore, for purposes of treatment, to remember that cerebral lesions may occur within the first year. Extensive lesions such as those of the case of double hemiplegia and pseudo-bulbar paralysis reported in THE LANCET of Oct. 4th are very uncommon so early in the history of the disease.

A very striking feature of this form of hemiplegia is the comparatively early age at which it appears. The great majority of cases described are under 40 years of age, and the respective ages of the four cases reported by me are 39, 30, 40, 30. At such an age it is unusual to meet with cases of atheroma or arterial degeneration, and it is therefore unlikely that hemiplegia occurring at this age would be due to intracranial hæmorrhage from arterial degeneration. Cerebral hæmorrhage, however, may result from syphilitic atheroma or from rupture of a cerebral aneurysm in a part of a vessel previously weakened by disease. These two latter conditions, however, are essentially late phenomena of the syphilitic infection, and more commonly occur after the age of 40 years. In Allbutt and Rolleston's "System of Medicine" the following appears: "Given a patient under 40 in whom there is no evidence of cardiac or renal or any other conditions likely to give rise to blocking or rupture of a vessel, we are justified, even in the absence of any confirmatory history, in assuming, for purposes of treatment at least, that the condition is the result of syphilitic arterial disease."

Multiplicity and succession of lesions are very characteristic of paralysis due to syphilis, and this is well shown in the history of three of the cases here reported. The first case, indeed, is almost unique, in that the first hemiplegia occurred within five months of the primary infection, and within two weeks' time of his recovery from this and three months from the date of onset hemiplegia as complete occurred on the opposite side. There was also motor aphasia or a condition to all intents and purposes of acute bulbar paralysis (labio-glosso-laryngeal paralysis). The patient could not protrude the tongue at all, and he was unable to swallow either solids or liquids. Memory and intelligence were retained, for he could understand quite well what was said to him, and could convey by signs or expression what he wished to say, although from the loss of power in the tongue and glottis he was unable to articulate. There was also drooping of the lower lip and constant dribbling from the mouth, all of which are consistent with paralysis from affection of the bulbar nuclei.

Cases of double hemiplegia producing those pseudo-bulbar symptoms have been described by many writers in this country, notably Sir Thomas Barlow, Hughlings Jackson, Taylor, Newton Pitt, and others. At the necropsy in Sir Thomas Barlow's case necrotic softening was found in the ascending frontal convolution on both sides. In other cases the lesion occurred in the internal capsule and lenticular nucleus on both sides, as reported by Newton Pitt. Fournier mentions a case of bulbar paralysis which occurred with right hemiplegia and aphasia. The patient presented all the symptoms of labio-glosso-laryngeal paralysis, but recovered completely under antisyphilitic treatment. Generally, however, pseudo-bulbar symptoms appear after two attacks of hemiplegia, and usually after the second attack, and this may be explained by Broadbent's hypothesis, in that bilaterally associated movements are represented on both sides of the brain. It is only when double lesions occur, therefore, that pseudo-bulbar symptoms become manifest. In Case 2

[1] This paper is an addendum to an interesting series of notes on four cases of hemiplegia following syphilis which were published in THE LANCET of Oct. 4th, p. 989. We were unable to find space for the addendum in that issue. The four cases showed that hemiplegia sometimes occurs within a few months of the primary infection, and are well supplemented by the additional matter.—ED. L.

in my previous paper six weeks previous to the onset of hemiplegia there was ptosis of the right eye. He also stated that previously thereto he had had ptosis of the left eye. Following these symptoms he had paralysis of the right side. In Case 3 in my previous paper there was ptosis of the right eye in 1907, and in January, 1908, there were sudden pain and loss of power in the right leg. In September, 1908 he had a transient attack of aphasia which lasted a few days and then cleared up.

In its appearance and mode of onset syphilitic hemiplegia may be sudden, but as a rule it comes on gradually with tingling and paresis of one or more limbs. It often occurs during sleep or when the patient is resting, the flow of blood being then slower and the conditions favourable for the formation of a thrombus in the narrowed lumen of the blood-vessels. In none of the cases mentioned was there loss of consciousness, but it may be of interest here to note that, apart from the occurrence of hemiplegia, severe headaches and epileptiform seizures occurring for the first time in a man who hitherto has been free from these are frequent accompaniments of cerebral syphilis and often precede the onset of hemiplegia.

If these cases are seen early and given appropriate anti-syphilitic treatment, there may be complete and rapid recovery. The complete disappearance of all symptoms from the multiple lesions in Case 1 was very striking. If the cases, however, are not seen early and properly treated, the result of interference with the blood-supply to the affected part of the brain is softening and irreparable damage to the nerve cells. Hence the importance in such cases of early diagnosis and treatment, and when a history of syphilis is not available, valuable information might be obtained by the Wassermann test and examination of the cerebro-spinal fluid. The interval of time elapsing between the primary infection and the appearance of the hemiplegia varied, but in three out of the four cases it occurred within nine months, the earliest being five months. In the other case syphilis was admitted, but the patient was uncertain as to the date of infection.

London, S.W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Clinical Cases.

A MEETING of this section was held on Oct. 10th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. J. D. ROLLESTON exhibited a case showing the Value of Salvarsan in the Local Treatment of Vincent's Angina. The patient was a man aged 20, who was admitted to hospital on August 2nd, 1913, certified to be suffering from diphtheria, on the seventh day of the disease. The fauces were slightly injected. From a dirty deposit on the right tonsil numerous Vincent's organisms were obtained. Throat cultures taken on admission and on each of the two following days showed absence of diphtheria bacilli. No antitoxin was given. On August 3rd well-marked ulceration of the right tonsil was present. In spite of various local measures successively adopted—viz., application of methylene blue powder, syringing with a solution of potassium chlorate and lavender, and painting with tincture of iodine—the ulceration spread on to the palate and uvula, which became œdematous and covered with a dirty slough. There was considerable submaxillary adenitis. The throat became increasingly painful and there was some difficulty in swallowing and pain in both ears. On the 17th all other treatment was omitted and a throat swab moistened with glycerine was dipped in salvarsan powder and rubbed all over the affected area. The application was not painful, and within four hours the throat felt much easier. Subsequently three more applications of salvarsan were made. The slough entirely cleared off and the adenitis subsided. Vincent's organisms disappeared from the smear. On his discharge on the 30th only a very small opaque area was visible on the uvula, and within a week the throat became perfectly normal and has remained so since. Although the local discomfort was considerable there was no constitutional disturbance, the urine was free from albumin, and the temperature was normal throughout his stay in hospital, except on the day of admission, when it was 99° F. There was no history or evidence of syphilis, and Wassermann's reaction (August 17th) was negative.

Mr. G. H. MAKINS showed a case of Actinomycosis of the Cheek treated by Parenchymatous Injections of Formalin. The patient, a boy aged 17, was admitted into St. Thomas's Hospital in January, 1913. Two months previously an alveolar abscess had developed in connexion with some carious teeth. The abscess was incised, and shortly afterwards a hard, brawny swelling developed in the right cheek. On admission this swelling occupied an area of about the size of a half-crown piece. It was bluish-red in colour, very hard, and firmly fixed to the surface of the maxilla. Four discharging sinuses were present, and on examination of the pus exuding from these the streptothrix of actinomycosis was discovered. During the month of February iodide of potassium, beginning with 5-gr. doses, rapidly increased to 20 gr., was administered internally three times daily. On Feb. 21st two hypodermic syringefuls of 4 per cent. formalin solution were injected around the periphery of the indurated area and into the margins of the area itself. The injection was followed by considerable swelling of the cheek and lower eyelid. A second injection was made on April 4th, after which all the sinuses closed. Meanwhile considerable diminution occurred in the extent of the induration. Further injections were made on April 22nd, May 30th, and July 16th. Each injection was followed by considerable local œdema which rapidly subsided, after which the indurated tissue became less in extent and freely movable upon the maxilla. The injections were necessarily made around the circumference, since the fluid could not be freely forced into the indurated area. When exhibited the cheek was nearly normal, the only fixed spot corresponding with the cicatrix of the largest of the sinuses present when the formalin treatment was commenced.

Mr. T. H. KELLOCK showed a case of Complete Destruction of a part of the Diaphysis of the Tibia by Acute Osteomyelitis. The boy, aged 8, two years ago had a sudden acute illness associated with much pain and swelling of the left leg below the knee. An operation was performed and some bone removed. Several months later a second operation was performed. The wounds had quite healed. There was considerable mobility between the upper and lower ends of the tibia. A skiagram showed that the epiphyses were present and there was some attenuated bone leading from them, but for a considerable space there was complete absence of bone in the situation which the shaft of the tibia should occupy. The fibula appeared to be unaffected.

Mr. KELLOCK also showed a case of Osteogenesis Imperfecta with Multiple Fractures. The history of this patient was indefinite. He was an orphan boy aged 11½. He was breast-fed for nearly three months. It could not be ascertained whether any deformity was present when he was an infant. He did not walk until he was 4 years of age, and was said not to have talked until six months ago. There were five brothers and sisters, all of whom were said to be healthy. The child presented marked deformities of the long bones; the tibiæ and fibulæ were markedly bowed forwards; the femora were curved; the humeri showed marked thickening about the bicipital groove. Some of the epiphyses, especially those at the wrists, were enlarged. Skiagrams showed the long bones to be more translucent than normal and to contain comparatively little compact tissue. Spontaneous fractures were seen in the tibiæ, radii, and ulnæ, with practically no displacement of the fragments. Wassermann reaction was negative.

Dr. W. ESSEX WYNTER showed two cases of Splenic Enlargement, Hæmorrhage, Anæmia, with Oral Sepsis. The first case was that of a man, aged 50, who had severe epistaxis in May, 1913. He went to hospital and the teeth were attended to after the bleeding had been stopped. On August 10th there was sudden pain below the left ribs; the spleen was found to be enlarged, and when he was admitted to hospital on August 20th it extended to within 1½ in. of Poupart's ligament and 2 in. beyond the umbilicus in the middle line. It was firm and not then tender. The heart and lungs were normal. On Sept. 10th sudden and severe pain occurred over the spleen, with subnormal temperature, vomiting, and collapse. Friction could be heard over the organ, which was apparently the seat of an infarct. A similar

attack occurred two days later, but less severe, and no friction could be detected. On the 18th severe and persistent epistaxis occurred, which was only arrested by plugging the nostril. On Sept. 25th this recurred with less severity, both attacks being preceded by severe headache. No lesion of the mucous membrane could be detected. Blood counts showed a gradual decrease in the number of red and white cells (from 25,000), an increasing proportion of lymphocytes, and a raised colour index. The urine contained 0·3 per cent. albumin, but was otherwise normal. The teeth were much decayed, had been entirely neglected, and there was extensive pyorrhœa. In Case 2 arteritis obliterans also occurred. The patient was a woman, aged 55, who had suffered for 12 months with attacks of pain in the toes and fingers, and a month ago submitted to amputation of the left second toe for moist gangrene; about the same time the third toe on the same foot was affected with dry gangrene. Ten months ago there was slight uterine hæmorrhage. The patient continued at work as housekeeper though feeling weak and tired. On August 20th to 22nd last severe hæmorrhage from the nose and mouth occurred, the loss of blood being estimated at two pints. Previous health had been good. On admission to hospital on August 25th the skin exhibited a waxy pallor. The spleen, which was hard and not tender, could be felt 2 inches below the costal margin, and there was slight enlargement of the liver with similar characters. The abdomen was lax, and no free fluid existed in the cavity. A hæmic murmur could be heard over the præcordia, otherwise the heart and lungs showed no physical signs. Partial dentures were worn over numerous stumps, and the gums were in a very septic condition. Wassermann's reaction was negative. The blood showed anæmia with a leucocytosis of 38,400 and a lowering of the colour index.

Sir FREDERIC EVE showed a case of Angioma of the Synovial Membrane of the Elbow. The patient was a girl aged 11. One year and nine months ago the elbow became swollen and painful and she was laid up with it for a fortnight. The swelling was attributed to a blow on the part two or three years previously. Since then the elbow had become swollen every few weeks. When exhibited there was a bluish bilobed swelling on the outer side of the head of the radius; the swelling disappeared on raising the arm; after applying an elastic ligature to the upper arm it stood out prominently and the circumference of the limb at the site of the swelling was increased by ¼ in. Sir Frederic Eve said that he had drawn attention to this condition in a paper in the Clinical Society's Transactions, 1903, Vol. XXXVI., p. 204, and described two cases of angioma involving only the synovial membrane, and two others implicating also the surrounding muscles. The chief interest of the condition lay in the diagnosis from localised tuberculosis of the synovial membrane. This might usually be made by observing the changes in the swelling induced by alterations of the venous circulation. Angiomata of synovial membrane often gave rise to a good deal of pain, increased by exercise. There might be tenderness, limitation of movement, wasting of muscle, and two of Sir Frederic Eve's cases complained of starting of the limb at night.

Sir FREDERIC EVE also showed a case of Bazin's Disease. The patient was a woman aged 31. The trouble began as a hard swelling on the outer side of the left leg, which broke down and discharged. An abscess formed, which gradually spread. When Sir Frederic Eve first saw her in March, 1913, there were two thin oval cicatrices on the outer side of the lower third of the left leg. At the lower and outer margin of these cicatrices was a rim composed of irregular pit-like ulcerations covered with flabby granulations. The general appearances were those of a serpiginous ulcer. There was also a very small ulcer on the inner side of the same leg. The patient appeared perfectly healthy, and a Wassermann reaction was negative. The ulcerated areas were excised and skin-grafts were applied. At the same time the affected part was exposed to the X rays. As a result of this treatment complete healing took place. Later a few pit-like ulcers reappeared, but they healed after applications of pure carbolic acid and fomentations of 1 in 5000 watery solution of biniodide of mercury, and she returned home. About three weeks subsequently the small ulcer on the inner side of the left leg broke down again, and a sore appeared on the right leg. Small areas of the margins of the scars on the outer side of the left leg also broke down. While in hospital she had been treated by X rays and had been kept in bed.

Mr. PERCIVAL P. COLE showed a case of Tumour of the Thigh in a man, aged 45, who had fractured his right femur on Feb. 10th, 1913, at the junction of the middle and lower thirds. Considerable shortening and deformity followed, but owing to the patient's cardiac condition it was deemed inadvisable to plate. He was treated on a Hodgen's splint for a few days, but pressure sores began to develop, and extension apparatus had to be abandoned. He was discharged 11 weeks after admission. An excessive amount of callus had been thrown out and union was not complete. He was readmitted on Sept. 25th. The swelling of the right thigh had gradually and painlessly increased, showing a circumference of 22½ in., as against the normal 14¾ in. The swelling was elastic and semi-fluctuating, feeling like a tense cyst. Exploratory incision was made under spinal anæsthesia, when some mucoid gelatinous fluid escaped. The tumour was composed of soft, jelly-like material, with spicules of bone embedded therein. This bled freely and surrounded the bone ends, which could just be felt. On microscopical examination it was found to be a myxo-chondroma.

Dr. ARTHUR F. HERTZ and Dr. W. JOHNSON showed a case of Bilateral Atrophy of the Face. The patient was an Italian, aged 38, who presented himself for weakness of the right side of his face, complaining that the right eye closed incompletely during sleep. His face showed a well-marked condition of atrophy on both sides, especially the left. The cheeks were extremely hollow, and the tissues covering the bones of the face were very wasted. He showed well-marked signs of chronic lead poisoning with great weakness of all the extensor muscles of the wrists and fingers of both sides. He had a blue line on his gums, and was very constipated; he had had numerous attacks of abdominal colic. He showed no other signs of disease of his nervous system; the reflexes were all normal.

Dr. H. GARDINER showed a case of Neuropathic Arthritis of the Wrist in a man aged 42. The right thumb was wounded by a splinter nine weeks ago. A good deal of pain and swelling occurred, the swelling reaching half up the arm. This quickly subsided, but left the wrist-joint swollen but painless. The right wrist was swollen and contained fluid. There was a dorsal dislocation of the wrist-joint, easily reduced. The joint was quite disorganised with osteophytic changes and rough grating. It was entirely painless and the muscular sense was diminished. Sensation of heat and cold was also absent. Tactile sensation was affected to a slight degree. There was some scoliosis which had been present for many years.

Dr. GARDINER also showed a case of Bilateral Cervical Ribs in a girl aged 17. She complained of slight weakness of both hands, noticeable chiefly when stretching big chords on the piano. The weakness had been noticed for three to four years. On examination very little abnormal could be detected in either hand, but the thenar and hypothenar eminences were not so well marked as one would have expected. X-ray examination of the neck showed the presence of bilateral cervical ribs, very well developed.

Dr. H. D. ROLLESTON and Mr. E. F. W. GRELLIER showed a case of Unilateral Clubbing of the Fingers due to an Axillary Aneurysm. It occurred in a man whose serum gave a positive Wassermann reaction. No difference in blood pressure or pulse-tracing could be demonstrated between the two radial arteries.

MEDICAL SOCIETY OF LONDON.

The Cerebro-spinal Fluid in Health and Disease.—Varieties of Facial Spasm and their Treatment.

A MEETING of this society was held on Oct. 13th, Sir DAVID FERRIER, the President, being in the chair.

The PRESIDENT delivered the opening address of the session, choosing as his subject the Cerebro-spinal Fluid in Health and Disease. The address appears in full in this issue of THE LANCET at p. 1107.

Dr. E. FARQUHAR BUZZARD read a paper on Varieties of Facial Spasm and their Treatment. He said that his object was not to deal exhaustively with every condition of disease under which facial spasm might occur, but to indicate briefly the characteristics of the chief forms which might be met with, to give them a working classification, and

to say what he had learnt about their treatment. From a pathological point of view, spasms of the face might be divided into three main classes: (1) psychogenic; (2) cortical; and (3) peripheral. This category included most cases, but there were some which it was difficult to classify with any degree of confidence. In the *psychogenic* class were the tics and the hysterical spasms. The tics had a common feature in that the movement was—in the first instance at any rate—a voluntary one. On the other hand, the true tiqueur would conceive one tic after another without effort, rhyme, or reason, and each ran riot until it died a natural or artificial death. Probably everyone was more or less a tiqueur, especially in early life, but the name was reserved for those who were not able to educate perfect control over their tendency to tic, who derived a mixture of perverted pleasure and morbid remorse from their antics, and who remained victims to this psychical disorder throughout the greater part of their existence. The habit spasms of childhood, for the most part readily amenable to treatment, must be classed with the tics, and he would also include in the same category movements which not infrequently persisted after an attack of chorea. The minor tics of childhood could generally be cured in a short time by attention to the general health and by allotting a certain amount of time every day to educating the patient's control over the movement. The true tiqueur might also yield to similar methods of treatment, but he was only too likely to develop fresh troubles of the same type in the early future. *Hysterical* facial spasm was not so common, but might be either tonic or clonic in character. In the clonic variety, where the facial movements were often associated with similar spasms in the limbs, muscular contortions were very irregular and sometimes described as hysterical chorea. Cases of hysterical tonic spasm were more rarely met with. The muscles chiefly affected were the orbicularis palpebræ, the frontalis or the corrugator supercilii. Hysterical ptosis was an example of spasm of the eyelids. He did not discuss the treatment of hysterical facial spasm in detail, but pointed out that hysterical affections of the nervous system were often extremely obstinate, and still more often tended to recur in similar or different forms. Dealing with *cortical spasm* he said that irritative lesions of the face centre in the Rolandic cortex were sometimes responsible for unilateral facial spasm. Tumours, cysts, or localised meningitis were among the possible causes. As a rule, the facial spasm was accompanied or followed by movements of the tongue or of the corresponding upper limb, but the facial muscles might be involved alone. More often the facial spasm of cortical origin was only part of a Jacksonian epileptic attack. He then considered the facial spasms of *peripheral* origin, including in this group all cases in which the seventh cranial nerve or its nucleus was the site of a lesion. Closely associated with it was the purely reflex spasm best seen in cases of trigeminal neuralgia. The contraction of the facial muscles might be brought about by an irritative lesion of the facial nerve without any painful accompaniment. He then mentioned another variety of facial spasm of chronic or even permanent duration, for which there was no obvious cause. Though sometimes called "true facial spasm" and sometimes "tic convulsif," he preferred to call it *chronic facio-spasm*, since inveterate chronicity was its chief characteristic. It was a disease of adult life affecting both sexes; the onset was insidious, the patient first noticing a slight contraction of one facial muscle. The frequency, severity, and extent of these contractions gradually increased until the patient was hardly ever free from a disfiguring contraction of all the muscles supplied by the seventh nerve of one side of the face. The appearance produced by the spasms strongly resembled that seen in patients suffering from paroxysms of neuralgia, and it was sometimes difficult to believe that they were not in pain. The patient was quite incapable of modifying the spasm by any effort of will, and any attempts to do so were usually attended by an increase of the trouble. The patients were not neuropathic, there was no local source of irritation, and their general health had been good. The only complaint that he had heard of beyond that based on the disfigurement had been a slight noise in the corresponding ear due to simultaneous contraction of the stapedius. He knew of no treatment which had any beneficial effect, and the disturbance tended to reach a certain stage of severity and then to remain more or less stationary until the end of the patient's life. Local measures were worse than useless, and sedative drugs had little influence. Alcoholic injection of the facial nerve was certainly justifiable in the case of patients who could not bear their active disfigurement with philosophy and who preferred the more passive disfigurement due to facial palsy. The results of this treatment were not always identical, and the operation was not an easy one. It was a method calculated to relieve the disorder, but not to be urged upon any patient. He could not explain the pathology of this form of facial spasm. Another variety of peripheral facial spasm went by the name of post-paralytic contracture. It was recognised by the history of the former palsy, and by the fact that the healthy side of the face at first sight appeared to be the seat of some weakness. Its treatment was very unsatisfactory. Electricity appeared to do harm, but gentle massage was occasionally helpful. He then referred to a form of facial spasm to which he gave the name fibrillo-tonic facial spasm. It was not a disease of itself, but might occur as a rare phenomenon in the course of organic nervous diseases such as cerebro-spinal syphilis and disseminated sclerosis. Its treatment, therefore, was based on the diagnosis of the primary disorder in each case. He said that he had only referred to comparatively few varieties of facial spasm, his object being to provide some help in diagnosis and treatment. The first duty of a medical man when confronted by a case was to make up his mind whether it was psychogenic, cortical, or peripheral in origin, and subsequently to distinguish between a tic, hysteria, cortical lesion, reflex irritation, post-paralytic contracture, chronic facio-spasm, and fibrillo-tonic facial spasm. The diagnosis must be based on careful investigation of every case, and, once established, the proper line of treatment was clearly indicated.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Dilatation of the Stomach.

A MEETING of this society was held on Oct. 3rd, when Mr. A. ERNEST MAYLARD, the President, delivered an address on Dilatation of the Stomach. After referring to the development of the stomach and to its normal position and shape as ascertained by modern surgery and X ray photography, Mr Maylard said it was doubtful if there was any such condition as uncomplicated dilatation of the stomach, or if a simple chronic gastric catarrh could lead to dilatation. When dilatation was present it was much more probable that the catarrh was a consequence and not a cause, and that some obstruction existed which had indirectly given rise to the inflamed condition of the mucous membrane. The only exceptions were cases in which adhesions had interfered with efficient contraction and complete emptying of the organ. Nephroptosis sometimes acted as a mechanical cause of dilatation by kinking a portion of the duodenum or by pressing on the bowel. Diagnosis in the early stages of the disease was difficult because so many cases temporarily improved under certain forms of treatment. Thus if a patient with slight obstruction were fed with easily digestible food the stomach might overcome the obstruction and the patient be freed from symptoms of dilatation and even of gastric disturbance, but immediately he returned to an ordinary diet symptoms reappeared. Or such a patient might complain that when feeling over-tired or run down in health his gastric symptoms became augmented, and that as his general condition improved, by rest or holiday, they disappeared, only to return when he resumed his ordinary work and mode of living. In nearly all cases there followed, sooner or later, retention of the ingesta with fermentative changes. If by lavage these were prevented the motor functions of the viscus might be so improved that normal contractions would occur and all symptoms of dilatation disappear, but such would reappear as soon as lavage was desisted from. Similar temporary improvement might be secured by massage or electrical treatment. The causes of obstruction might be connected with the duodenum, the pylorus, or the body of the stomach, and might be innocent or malignant. Obstruction might be caused by kinking of the canal (the result of ptosis or adhesions), or by narrowing of the pyloric aperture

due to congenital hypertrophy or some check on the normal process of development. The latter class of case occurred mostly among young adults who, while healthy in every other respect, suffered from periods of indigestion and showed evidences of intermittent attacks of gastric dilatation. In the diagnosis of dilatation percussion alone or in conjunction with auscultation was not of much use, except in advanced cases. Two of the most striking symptoms were the quantity and character of the vomitus and the result of mechanical distension, while X ray photography had added considerably to the means of diagnosis. As to prognosis, it was almost right to say, "Once obstruction, always obstruction." Often, prior to dilatation, spasmodic contractions of the stomach caused great pain. In cases where dilatation had become permanent gastric tetany was an occasional and very fatal result. Where carcinoma was the obstructing cause death might result from one of its many complications. As to treatment, recognition of the fact that the great majority of cases of dilatation were due to obstruction would save many a patient months, and even years, of ineffectual dietetic and medicinal treatment by the timely intervention of surgery. It was a mistake to attempt to treat merely the symptom, dilatation; hence lessening the size of a big stomach by puckering or infolding (gastrorrhaphy) was seldom done now. Whatever operation was decided on must aim at overcoming the obstruction. At present gastro-jejunostomy was the method most in vogue, but cases had to be dealt with according to the nature of the obstruction; for example, by gastrolysis in case of adhesions, by fixation of the kidney in nephroptosis, by subtotal gastrectomy (if feasible) in addition to gastro-jejunostomy in carcinoma, and by Finney's modification of gastro-duodenostomy in congenital narrowness of the pyloric orifice. How successful were these methods was testified to by the excellence of both the immediate and remote results, for the mortality after operation, in experienced hands, did not exceed 2 to 3 per cent., while there could be no one who had not seen a life of perpetual gastric misery changed into one of permanent gastric joy.

At the conclusion of the address Dr. JAMES E. RIDDELL gave a lantern demonstration of skiagrams illustrating various appearances of the stomach in conditions of health and disease.

Reviews and Notices of Books.

Fibroids of the Uterus: their Pathology and Treatment. By Sir JOHN BLAND-SUTTON, F.R.C.S. Eng., Surgeon to the Middlesex Hospital. With 39 illustrations. London: Science Reviews, Limited. 1913. Pp. 240–vi. Price, cloth, 4*s.* 6*d.* net.

THE author of this monograph, who has a rightly deserved position as a leader in operative surgery, has had a very large experience in the operative treatment of fibroids of the uterus, and the views he puts forward are therefore of much interest. A perusal of this work could leave no doubt in the mind of the reader as to the serious complications which may be associated with these tumours. At the same time we must always remember that the experience of an operating gynæcologist is not necessarily such as to enable him to say what is the usual life-history of an uncomplicated fibromyoma of the uterus. A true conception of the relative danger of these tumours would be attainable if it were possible to collate the experiences of a large number of general practitioners who had had the opportunity of observing them over long periods of time and balance these experiences with the records of treatment by operation. At the present day any such opportunity is becoming increasingly unlikely to occur, because it is becoming more and more the practice to follow the general line by considering a fibroid a tumour to be removed as soon as possible. But obstetric teachers, or the majority of them, think that the dangers of fibroids in pregnancy have been much magnified by surgeons, and that the view has led to unnecessary operations being performed upon these patients with the sacrifice of unborn children. The usual course of events in a case of pregnancy complicating fibroids when the patient is not operated upon in the early months, as proved by the records of big maternity hospitals, does not form an argument for surgical interference. The opinion of many obstetricians with large special experience of these cases is that they should only be operated upon in exceptional circumstances. At the International Congress of Medicine a great deal of prominence was given to the treatment of fibroid tumours by the X rays, and, indeed, some of the German speakers talked of those who still operate upon fibroid tumours in terms of unjustifiable strength.

In discussing the interesting question of the origin of a sarcoma from a fibroid tumour the author maintains that this does not occur; in his opinion, indeed, once a sarcoma always a sarcoma. The view is maintained that the presence of fibroid tumours in the uterus is a predisposing cause of cancer of the corporeal endometrium. The presence of septic infection of the uterus is held to be an important etiological factor in the production of the menorrhagia which so frequently accompanies fibroid tumours; it is also believed to be the main factor in the production of a fibrotic uterus and in the causation of an adenomyoma of the uterus. The latter condition is termed an epithelial overgrowth, with a responsive increase of the connective tissue due to the action of micro-organisms, and therefore bearing a relation to fibrosis uteri described as an end result of septic infection. The sections dealing more particularly with surgical technique are naturally of great attraction, and if we do not agree always with Sir John Bland-Sutton, we recognise that he has enormous clinical success to reinforce his views. It is interesting to find that he practises vaginal hysterectomy with the use of clamps, that he advocates abdominal rather than vaginal drainage, and that he suggests the drawing down through the vagina with two pairs of fenestrated forceps of the bleeding edges of the vagina after total hysterectomy, so as to avoid the application of sutures or ligatures to the vaginal edges, because in his experience they are so liable to become infected and to act as setons. Here again we have a considerable difference of opinion between the surgeon and the gynæcologist. The latter would as a general rule not use clamps for vaginal hysterectomy, while practically every gynæcologist uses vaginal and not abdominal drainage, which is essentially the practice of the surgeon not accustomed to operating through the vagina.

The book contains a great deal of interesting matter and clear pathological teaching. A good many of the statements will not meet with universal acceptance; but those gynæcologists who do not agree with Sir John Bland-Sutton's views must allow that his vast experience gives him the right to hold strong opinions.

A Monograph on Albinism in Man. By KARL PEARSON, F.R.S., E. NETTLESHIP, F.R.C.S. Eng., F.R.S., and C. H. USHER, M.B., B.C. Cantab. Text Part II., Atlas Part II. London: Dulau and Co. 1913. Pp. vii. + 265–524. Price 30*s.* net.

THE second part of this monograph[1] contains a valuable collection of miscellaneous data directly or indirectly connected with albinism in man, but has not the same fascination or interest as the first. This is due to the fact, to which the authors call attention in the preface, that no attempt has been made to weld together the results of the various researches described, some of which—for example, that on the inheritance of the shape of the head and muzzle in crosses between Pekinese and Pomeranian dogs—have only a very remote bearing on the subject of the monograph.

The volume contains five chapters, of which the first

[1] The first part was reviewed in THE LANCET of April 8th, 1911, p. 942.

(Chapter VII. of the whole work) deals with the albinotic eye in man. The number of cases in which a careful microscopical examination has been made of the eye of an albino are remarkably few, but are sufficient to show that in many cases the absence of pigment is not complete. The examination of living eyes has been conducted in a far larger number of cases, but does not give such certain information as to the distribution of pigment. Such evidence as has been obtained points to the conclusion that albinism of the eye may be of many diverse kinds. The authors discuss carefully the various factors which affect the appearance of the living eye, and then go on to consider the nature and causes of the visual defects which are so common in albinos; a number of particular cases are described at some length.

Albinotic hair in man and animals forms the subject of the second chapter. With regard to it the authors maintain that the test of albinism of the hair is the absence of granular pigmentation. If this definition is accepted many persons with cream, yellow, or red hair have to be regarded as albinotic in respect to the hair, since these colours may be due entirely to "diffused" pigment. On the other hand, pigment granules may be present in "the snow white hair of the clinically complete albino." Thus there are various sorts and degrees of albinism, both of the eyes and of the hair, and they appeared to be distributed to some extent independently of one another in various members of one and the same family, which renders it difficult "to classify the members of a stock into unit categories like albinotic and not albinotic."

In the third chapter investigations of the albinotic eye among the lower animals are described, while the fourth and fifth chapters deal respectively with seasonal variation of winter-white animals and breeding experiments with albino dogs. The whole work is illustrated by an elaborate atlas of plates, many of which are admirably printed in colours.

A Text-book of Biology. By WILLIAM MARTIN SMALLWOOD, Ph.D. Harvard, Professor of Comparative Anatomy in the Liberal Arts College of Syracuse University. Illustrated with 243 engravings and 12 plates in colour and monochrome. London: Baillière, Tindall, and Cox. 1913. Pp. 285. Price 10*s.* 6*d.* net.

THIS book differs completely from what we at least in this country usually regard as a text-book of biology. It is intended for students in medical, technical, and general courses. The author goes on the principle that work in the laboratory will always precede the discussion of the text, and each chapter is written on the assumption that the student is already in possession of certain facts which he has gained from his own accurate observation. Moreover, nearly all the illustrations have been intentionally selected from material which will not be a part of the regular laboratory work, so that the student has no temptation to copy text drawings and substitute them for his laboratory observations.

The historical development of biology is first outlined, and this is taken as the natural and logical plan of study for the beginning student. Each chapter is prefaced by a very short statement of laboratory study, while the text itself explains and expands the observations supposed to have been already made in the laboratory. Movement, as one of the most obvious of animal functions, is first dealt with. The organ systems are next considered, beginning with the digestive canal of the frog, the respiratory and the urogenital organs, and the student is led to inquire as to the four-fold aspect and scope of biology: What is the organ? What does it do? How does it arise? How did it come to have its present form and relations? The physiology of digestion in the frog, circulation, respiration, and metabolism are next dealt with. This involves elementary ideas as to the nature, use, and derivatives of proteins, carbohydrates, and fats. One chapter is devoted to the histology of tissues and cells, and this is followed by an account of the nervous system of the frog. Embryology comes next with a full account of the segmentation of the ovum and subsequent processes up to the formation of the adult frog. Next comes hydra—an animal made up of tissues only. Under this head the student is introduced to the process of regeneration. Protozoa—animals made up of cells only—come next. Naturally there follows the biology of cells and the cell theory, the structure and functions of protoplasm. This leads to the study of specific movements, or as Jennings calls it, "the behaviour of animals," as studied in paramecium by what has been called by Lloyd Morgan the process of "trial and error." An exposition of mitosis brings this chapter to an end. We are then introduced to the biology of bacteria, yeasts and moulds, from a morphological and chemical point of view, and to the nature of life itself. The author now proceeds to consider classification. He deals especially with the "worm" group and insects. The economic, destructive, and beneficial work of insects is next considered and illustrated by five coloured plates and other figures.

The plant kingdom is next reviewed in a short chapter. Under the head of "Some Biological Adaptations" the question of parasitism is discussed and vividly illustrated both by pen and drawing. Symbiosis and community life are explained, and then "Biological Factors in Disease" leads to the study of rattlesnakes and their poisons, poisonous fungi, sporotrichosis, ergot fungus, galls, malaria, bacterial diseases, filterable viruses, animal tumours, disease carriers, trypanosomes, the prevention of disease, and immunity. A short chapter on some organic evidences of evolution, with portraits of Lamarck and Darwin, is followed by one on variation and heredity and the question of Mendelism. The work is brought to a close with an interesting account of animal behaviour and its relation to mind.

We have said enough to show how altogether original is the author's conception of biology; in fact, his conception is the natural one. Altogether it is a charmingly written, liberally illustrated, and singularly suggestive text-book. There are a useful glossary and an excellent index.

The Surgery of the Brain and Spinal Cord, based on Personal Experiences. By Professor FEDOR KRAUSE, Geh. Medizinalrat, Dirigierender Arzt am Augusta-Hospital zu Berlin. Vol. I., with 63 figures in the text, 24 coloured plates, and 1 half-tone plate. Translated by Professor HERMAN A. HAUBOLD. Pp 282. Price 25*s.* net. Vol. II., with 94 figures in the text, 27 coloured figures, and 4 half-tone figures. Translated by Dr. MAX THOREK. Pp. 283–819. Price 30*s.* net. Vol. III., with 42 figures in the text and 47 coloured figures. Translated by Dr. MAX THOREK. Pp. 820–1201. Price 30*s.* net. London: H. K. Lewis. 1913.

THE importance of the surgery of the brain at the present time may be gauged by the large number of careful works on this branch of surgery which have within recent years been issued from the press of this and other countries. One of the most thorough and valuable of these works is that which appeared in German from the pen of Professor Krause, and its value was in no way lessened, but rather increased, by the fact that the treatise was in the main a record of his own work and not a mere *résumé* of the work and writings of others. The appearance of the book in English will extend the sphere of its usefulness, for unfortunately all English surgeons do not read German with facility. The author does not spend space and time on discussing or describing what is well known, such as the characteristics of cerebral compression or the development of optic neuritis,

but he has devoted much space to the record of illustrative cases, with a description of the operations he has performed and the results he has obtained. The great value of the book lies in the fact that it contains the personal experience of a great surgeon, and that he gives the material on which his views are based, for he relates the cases themselves.

The translation has been very ably made, though here and there we meet with expressions which are hardly English. As an example we may quote the following: "A tumour of the cerebellum had been simulated by an enormous kyphos of the base of the skull." In the following passage the word cure seems to be misused: "Removal of a large diffuse glioma from the left frontal brain by means of suction. Cure. Three months later recurrence and death." "Recovery from the operation" would have certainly been preferable.

Illustrations have been freely used, and many of them are in colours. Some of these have been made from sketches taken at the operations.

The Diseases of Children. Edited by Dr. M. PFAUNDLER and Dr. A. SCHLOSSMANN. Translated by HENRY L. K. SHAW, M.D., and LINNÆUS LA FÉTRA, M.D. With an Introduction by L. EMMETT HOLT, M.D. Vol. I. Second edition. Pp. 499. London and Philadelphia: J. B. Lippincott Company. 1912. Price £5 5*s.* for five volumes.

THIS great work was first published in German in 1906. Some three years later it was translated into English and published in America. In 1910 a new and greatly enlarged edition was published in Germany, and now we can again congratulate Dr. Henry L. K. Shaw and Dr. Linnæus La Fétra on the completion of the vast work of translating this complete and up-to-date second edition. As Dr. Emmett Holt says in his introduction to the American edition, there is no branch of medical science which has developed more rapidly during the last two decades than pædiatrics, and its development can be measured in terms of vital statistics and the actual number of lives of children annually saved. In New York City alone there is an annual saving of 12,000 children under 5 years of age. That the development of our knowledge of the hygiene and management of childhood is very largely due to the dissemination of such knowledge through the agency of pædiatric literature and works of the kind under review there can be no possible doubt, and we in England owe a very great debt of gratitude to American enterprise that so costly an undertaking as the translation into English of Pfaundler and Schlossmann's text-book has not been left for English shoulders to bear. It is a book without which no medical library can be complete, but it is a book also with which, owing to its necessarily restricted sale, probably few publishers in this country would be willing to saddle themselves.

The German editors have made a very thorough revision for the second edition, and have added a number of new chapters—and indeed a new volume—on the surgery and orthopædics of childhood. All this new material is included in the second American edition, as well as a number of editorial notes, which from the point of view of the English reader greatly enhance the value of the book. The new matter included in the first volume covers the subjects of mortality and morbidity in infancy, and metabolism and nutrition during the first year of life. The first is written by Professor W. Prausnitz, of Gratz, and translated by Dr. Shaw, and the second by Dr. W. Camerer, of Stuttgart, and translated by Dr. Samuel Amberg, of Baltimore. As in the former editions, some 200 pages are occupied by Professor Pfaundler's systematic analysis of the symptomatology of the diseases of children—a dull, though doubtless necessary part of so complete a text-book; there is little that is new in this chapter. In the chapter on general prophylaxis, by Dr. B. Bendix, attention is paid to the prevention of infection in the new born, of postural deformities in growing children, and of tuberculosis and other wasting diseases owing to faulty methods of feeding and the neglect of hygienic precautions. The chapter on milk, by Professor Raudnitz, of Prague, translated by Dr. Shaw, indicates the vast advances that have introduced in continental methods of milk production and milk distribution. The sanitary equipment for stables and dairies, and all that pertains to milk cooling, milk filtering, and dirt estimation, may be mentioned among the many important matters that are included in this chapter, and these indicate how great has been the progress in dairy hygiene since the last edition was written. The chapter on growth and weight, by Professor Camerer, translated by Dr. Amberg, is but slightly altered from the form in which it appeared in the first edition. It still maintains its excellent character for conciseness and accuracy; the diagrams and illustrations are a feature of this chapter.

The publishers have spared no pains in regard to print, paper, illustrations, and general arrangement.

Orthopädische Chirurgie. Von Dr. GUST. ALBERT WOLLENBERG, Privat-dozent. *Leitfäden der Praktischen Medizin.* Band 8. With 147 illustrations in the text. Leipzig: Werner Klinkhardt. 1913. Pp. 264. Price, paper, 7 marks; bound, 8 marks.

Dr. Wollenberg states in his preface that this book is intended both as an initial course for medical men and as a continuation course for those who wish to study the methods of orthopædic surgery more deeply. In Germany it will no doubt be useful to those taking post-graduate courses in the subject, and forming afterwards the large body of minor specialists; but it is difficult to discover any class in this country for which such a book has any real interest. The matter is excellent, is arranged in a simple and reasonably scientific way, and the language is sufficiently brief and clear. But the treatment of the subject is too full for the English student, the methods described too German for those preparing to meet examiners. On the other hand, Dr. Wollenberg has written rather upon classical German methods than upon his own, so that the book thus loses a possible interest to the specialist. Nevertheless, it is to this latter class that the book must appeal so far as this country is concerned, and it can be confidently recommended to those who wish to read a brief but sufficient account of continental methods in orthopædics.

A Summary of London Public Health Administration. By W. McC. WANKLYN, M.R.C.S. Eng. London: Longmans, Green, and Co. 1913. Pp. 59. Price 2*s.* 6*d.* net.

THIS is a useful little handbook, of a size suitable for the pocket, which provides a list of the principal London public health authorities with a brief account of their origin; a list of those official undertakings in London which may be termed "public health services"; a list of the principal public health statutes, both general and those special to the metropolis; and a suitable index.

The metropolitan area thus considered is that of the present County of London, an area of some 117 square miles, extending about 11 miles north and south from Hampstead Heath to the Crystal Palace, and about the same distance from east to west from Hammersmith to the River Lea at Poplar. All this area, therefore, in its sanitary administration, comes under the special provisions of the Public Health (London) Act, 1891, which in various respects differ from those in force for the rest of the country. Had

"Postal London," "Police London," or "Water London" been taken as the unit, and the suburbs included, the scope of the work would have had to be so greatly enlarged that convenient presentation would hardly have been possible. The arrangement is also simplified by the omission of the small area inside the boundaries of the City of London, which in many matters is independent of the County of London administration.

The preliminary chapter gives much useful information in small space of the occasions of the formation of public bodies such as the Metropolitan Board of Works in 1855, the Metropolitan Asylums Board in 1867, the London County Council in 1888, and the Metropolitan Water Board in 1902. It also refers to the establishment of the central Government departments which exercise supervisory duties in public health matters, the Local Government Board, the Home Office, the Board of Education, and also the Board of Agriculture, an office which Mr. Wanklyn credits with public health functions. The bulk of the volume consists of a tabular statement of some 40 different "public health services," with the legislation affecting each, and the authorities which are responsible, the "services" being subdivided according as the administration principally affects (1) the normal individual from birth to death; (2) the dwelling; (3) the food-supply (4) the very poor; and (5) the sick.

Although it is stated that this little handbook has been prepared for the aid of foreign visitors to London who are interested in sanitary matters, we think it is sure to be in demand not only by sanitary officials in London, but also by the numerous members of public administrative bodies in the metropolis. We have noticed very few errors or omissions, but some reference should, we think, have been made, under the heading of "Water," to the important work of the Director of Water Examination of the Metropolitan Water Board, and the duties of the borough councils in respect of the housing and building Acts seem hardly sufficiently developed. Had space permitted, a list of the Metropolitan Asylums Board infectious diseases hospitals would have been valuable, together with a plan, however simple, of the metropolitan borough areas.

Die Physikalische Therapie der Gelenkkrankheiten für Aerzte und Studierende. Von Dr. EDUARD WEISZ, Budapest. Mit 83 Textabbildungen. Berlin und Wien: Urban und Schwarzenberg. Pp. 265. Price 6 marks.

PHYSICAL treatment plays so important a part in the management of injured or diseased joints that it is not unreasonable to devote a volume entirely to this subject; and the author of this treatise has succeeded in writing a very useful work on an important subject—a subject which is to no little extent neglected by many of the ordinary text-books on surgery. He commences by laying stress on the fact that the general condition of the patient should not be neglected if the best results are to be obtained, for affections of the joints are often merely local expressions of a general condition. The different methods of treatment are considered in turn. The various forms of splints are described; massage, curative exercises, the use of electricity, light baths, heat and cold, and sun baths, are discussed. The influence of diet is not neglected. Serum and vaccine treatment is also considered. In the second part the various lesions of joints are taken in order. For its size the book contains a wonderful amount of information on the treatment of joints.

LIBRARY TABLE.

The Bacteriology of Diphtheria. Edited by Professor G. H. F. NUTTALL and Dr. G. S. GRAHAM-SMITH. Cambridge: University Press.—This work, which was favourably reviewed in THE LANCET some five years ago, is now issued by the same publishers at the price of 15*s.* net. As we indicated upon its first appearance, it is a useful and interesting attempt to present in one volume an account of the bacteriology of diphtheria complete up to the date of publication. The nucleus of the work is the long section by Dr. Graham-Smith, while other sections are contributed by Professor F. Löffler, Dr. Arthur Newsholme, Professor F. B. Mallory, Dr. George Dean, Dr. William Park, and Dr. Charles Bolduan.

Pye's Elementary Bandaging and Surgical Dressing. Revised and partly rewritten by W. H. CLAYTON-GREENE, B.C. Cantab., F.R.C.S. Eng., and V. ZACHARY COPE, M.S. Lond., F.R.C.S. Eng. Thirteenth edition. Bristol: John Wright and Sons, Limited; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1913. Pp. 230. Price 2*s.*—This little book, first published in 1886, is essentially a reissue for dressers and nurses of certain portions of "Pye's Surgical Handicraft." We recently reviewed the sixth edition of that work[1] as thoroughly revised and rejuvenated by Mr. Clayton-Greene, and the present work has been adapted to conform to the alterations therein, bringing it up to date. It is a useful pocket manual for dressers and nurses.

Primary Artisan Education. By W. B. WELPTON, B.Sc. London: Longmans, Green, and Co. 1913. Pp. 252. Price 3*s.* 6*d.* net.—Mr. Welpton is lecturer in education and master of method in the University of Leeds—that is to say, in a university which makes it its business to provide for a real artisan education. His book we think very good, but Mr. Welpton's ideas and advice will hardly meet with the approval of the syllabus-bound educationist. He pleads, we note, for discipline, and discipline is somewhat lacking among the younger generation of to-day except at public schools, in the services, and in such admirable organisations as the Boy Scouts. Mr. Welpton's ideal curriculum for the primary artisan school consists of culture studies, practical work, and physical exercises. These are considered generally in Chapter IV. and individually in the three following chapters, while Chapter VIII. deals with health. The book ends with an account of the Day Preparatory Trades Schools of the city of Leeds, schools which, *mutatis mutandis*, might well be imitated in other large towns. But so long as education is made a purely party question we fear that Mr. Welpton's admirable advice will fall on deaf ears.

The Nurse's Duties Before and During Operations. By E. MARGARET FOX. Pp. 110. *Treatment After Operations.* By MARY WILES. Pp. 130. London: The Scientific Press, Limited. Price 1*s.* net each.—These are two useful little books for nurses. The first is of a general character, and has much to say about the nurse's care of herself and her duties to her patients and to the medical man, and gives some general instruction in regard to her duties before and during operation, both in private and in hospital practice. The second gives detailed particulars in regard to the after treatment and duties in respect of various operations, including the special operations on the abdomen, head and ear, throat and nose, eye, vagina and rectum, plastic operations, and so forth, and considerations as to the effect thereon of age, tuberculosis, alcoholism, and other causes.

MISCELLANEOUS VOLUMES.

A NUMBER of books which, though of a medical character, are addressed to lay readers rather than to those whose professional vocation is medicine or one of its departments, may be conveniently considered together in this column. It should be noted that three of these are of American

[1] THE LANCET, May 17th, 1913, p. 1393.

origin, illustrating the fact that the direct appeal to the public is not viewed with any distrust in America.

The all-important subject of maternity comes first with three books. In *The Prospective Mother, a Handbook for Women* (London and New York: D. Appleton and Co. 1913. Pp. 343. Price 6*s.* net), Dr. J. MORRIS SLEMONS, who is associate professor of obstetrics at Johns Hopkins University, Baltimore, has written for women who have no special knowledge of medicine, and aims to answer the questions which occur to them in the course of their pregnancy. Directions for safeguarding their health are given in detail, and emphasis is placed upon such measures as may serve to prevent serious complications. The treatment of the varying conditions has not been discussed, with the idea that it should be reserved for a physician who has had the opportunity to study the individual patient. The author has endeavoured as far as possible to put what he has to say in the simplest possible language, and the result is a very interesting and useful manual. As Dr. Whitridge Williams points out in the preface he has contributed, in all branches of medicine the master word is prevention, and its benefits are nowhere more strikingly illustrated than in the practice of obstetrics. He draws attention to two points in his foreword with which we are in entire sympathy—the advance in the science of obstetrics must depend to a large extent upon the coöperation of intelligent women, and real progress in this branch of medicine can be expected to proceed only from well-equipped clinics connected with strong universities and in charge of properly trained and broad-minded men. If this excellent book of Dr. Slemons, by circulating in this country, does anything to attract the attention of English women to these two evident truths it will certainly have fulfilled an even more important mission than its author suggests for it.—*The Healthy Baby.* New York: The Macmillan Company. 1912. Pp. 235. Price 4*s.* 6*d.* Dr. ROGER H. DENNETT, instructor in diseases of children in the New York Post-graduate Medical School, clearly addresses himself to the uninformed lay public, although in so doing he carefully avoids encroaching on the rights and prerogatives of the practitioner. The advice offered throughout is for the most part thoroughly sound, but in certain respects it is perhaps regrettable that many of the instructions given are dogmatic; reasons are seldom adduced why one particular course should be followed rather than another. For instance, as regards the quantity of food which should be given to infants of different ages very clear and precise rules are laid down. The reader is not allowed to labour under the belief that two infants of the same weight and age can require quite different quantities of food. Such possibilities as acquired habits of digestion and metabolism are not considered, nor are such questions as external temperatures, degree of activity, or thicknesses of clothing—all details which must clearly modify the physiological requirements. The contents of this little volume are well arranged and easily written. The first part, consisting of some 20 pages, is devoted to development and the bodily functions. This includes details and instructions for managing the hours of sleep and the action of the bowels. In the next section nursing, hygiene, and training are considered, and we are glad to notice that the hardening process is advised, when rationally applied. In Part III. common ailments are described, but not in such a way as to equip the mother or nurse with more knowledge than it is desirable either of them should possess. In Part IV. the care of the special organs is given; in Part V. feeding and diet; and in Part VI. certain lists of nursing requirements and tables and recipes for preparing food. At the recent Conference on Infant Mortality held at the Caxton Hall there were repeated complaints that no two authorities seemed able to agree even with respect to the most important and fundamental principles of infant management; perhaps one of the most important details in infant management is connected with the regularity of the hours of feeding and the intervals between. Dr. Dennett advises a course which we believe most authorities in this country are now fairly unanimous in condemning, and that is to allow the infant to continue sleeping past its regular feeding hour; he very distinctly enjoins upon the mother not to wake the baby to feed it. We are glad, however, to note that he advises that the mouth should not be washed out for fear of damaging the naturally protective mucous membrane, and also that he warns nurses against that dangerous practice, from the point of view of infecting the genito-urinary tract in female infants, of washing the buttocks from the posterior parts towards those anterior, instead of *vice versâ*. There can be little doubt that many coli infections are caused from neglect of this precaution. Taking it all round, we regard Dr. Dennett's little book as very safe and reliable for mothers and nurses.—*Chavasse's Advice to a Mother* (London: J. and A. Churchill. 1913. Pp. 340. Price 1*s.* 6*d.* net) is too widely known and appreciated to need any description. The edition now before us (the seventeenth) has been revised by Dr. THOMAS DAVID LISTER, who has made sundry alterations from the old arrangement. Among others he has given up the question-and-answer form in which former editions were written, and has substituted paragraphs. Here and there, too, the book has been modified in accordance with modern ideas as to the occupations and amusements of girls. But in sum the book remains the same as of old, and will be found to be as useful as ever, or even more so.

Down to the close of the eighteenth century in civilised countries medicine was held to be, as it is still among primitive peoples, a mystery, something not to be revealed to the uninitiated. The tendency of modern thought, however, is to educate the layman so that he shall give the same intelligent confidence to his medical man as he does to the veterinary surgeon who looks after his horses or to the mechanic who looks after his motor-car, by teaching him enough about his body and its functions to enable him to recognise when, and to some extent why, something is wrong with it. Consequently health lectures and books on medicine and hygiene written for laymen are increasingly common. *Common Diseases*, by Dr. WOODS HUTCHINSON (London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1913. Pp. 452. Price 6*s.* net), is one of the best of its kind, though we prefer the more restrained style of Beale's "Common Ailments." Dr. Hutchinson, however, writes for Americans, whose popular literary style differs from the canons which obtain in this country. But if the manner sometimes jars the matter is excellent, and that after all is the great point. The chapters on catarrh, on the care of the feet, on insomnia, on dyspepsia, and on worry are worth every layman's reading, and although Dr. Hutchinson points out the uselessness of many drugs, he by no means omits to urge the necessity for skilled attendance and the dangers of home treatment in possibly deferring such attendance to a dangerously remote period. A study of Dr. Hutchinson's book ought to have the effect of making the layman understand when he does *not* know, and this is the object at which the medical profession should aim.

A MEDICAL MAN'S GIFT TO THE PRESTON GRAMMAR SCHOOL.—Dr. R. C. Brown, of Preston, who has made many important gifts to his native town, including an X ray equipment to the Preston Infirmary, has now presented the Preston Grammar School, of which he was a pupil, with a fine organ.

THE LANCET.

LONDON: SATURDAY, OCTOBER 18, 1913.

A Royal Commission on Syphilis.

IF the severity of a disease with its complications and sequelæ and the number of persons afflicted are to be a measure of its importance in a community there is none which can compare in importance with syphilis. It varies greatly, indeed, in the severity of its attack, but unluckily an attack of syphilis rarely ends with what is usually regarded as the disease itself. After the primary sore has healed, after the eruptions have disappeared, then in the absence of efficient treatment worse remains behind. The tertiary manifestations may be of an intensity utterly out of proportion to the quality of the earlier signs; destructive processes of a wonderful severity may show themselves, and their effects must be seen to be believed. Yet that is not all. The later expressions of the disease are in their way as formidable as those seen at an earlier stage. Locomotor ataxy and general paralysis of the insane are only two of the forms of the late effects of the disease on the nervous system; and can we feel justified in thinking that we have even now arrived at an appreciation of the whole of the results of this dire disease? It is only within recent years that we have succeeded in proving the syphilitic origin of many of the sequelæ of syphilis, and in all probability there are many other forms of disease which owe their origin to syphilis, though this connexion has not yet been made manifest. The number of those killed by the disease cannot be gathered from the returns of the Registrar-General. In the first place, there is a very natural hesitation on the part of a medical man to insert in a death certificate the fact that the cause of death is syphilis, especially as the certificate has to be handed to the relatives of the patient, so that without a real sacrifice to truth the results of the disease are inserted as the cause of death rather than the disease itself; and, in the second place, some of the manifestations, such as tabes, are so much diseases in themselves that there is ground for entering them as the cause of death rather than to go back to the original cause. So that we can have no doubt that many more deaths are due to syphilis than might be imagined from the death certificates. Great though the number of deaths due to syphilis may be, it cannot be compared with the number of cases in which suffering and illness result from this plague, and yet death does not ensue. In fact, when we consider the large number who die directly or indirectly from syphilis, the myriads who suffer in other ways from its effects, the hecatombs of infants who never see the light from this cause, and the still greater number who are born only to die in a few weeks or months, we cannot deny that there is no other malady under the sun which entails so much harm to the human race. And yet what in this country is done to mitigate its effects? The answer is—almost nothing. We spend huge sums every year in endeavouring to prevent the spread of scarlet fever; we make numerous laws to limit, and if possible to abolish from our midst, such diseases as enteric fever; we take elaborate precautions to prevent affections such as ringworm, which never can lead to the loss of a single life; and yet we do nothing officially to prevent the spread of the most virulent, the most widespread, the most persisting of all the ills to which flesh is heir. Everyone knows why. Syphilis is often the result of illicit sexual connexion, and this is the excuse—perhaps we may say the reason—for this unreasonable attitude. But it is known that a real proportion of cases of syphilis have acquired the disease in perfectly innocent ways, and it must be acknowledged by all that the old idea that venereal disease was a punishment for sin has no foundation in fact.

At last we have promise of legislation to remedy a grievous state of affairs, after an inquiry by a Royal Commission. The members of the public are beginning to recognise both the extent of the disease and the need for the adoption of some methods of prevention. As to what can be done to prevent the spread of the disease there are many opinions. At one time it was thought that the majority of the cases of syphilis came from infection from professional prostitutes, and that the methods of examination and segregation which were adopted in many countries should do much to limit the number of cases of the disease; but nearly all those who have had experience of the working of these preventive measures agree that they have on the whole failed. Now only those support this policy as have the consistency to demand the making of regulations much more severe than they are anywhere at present; and in this and other countries what may be called the moral objection to such stringency must prevent its employment to any more than a very slight extent. Besides, it has come to be recognised that in a very large proportion of cases of the disease infection comes, not from habitual prostitution, but from casual illicit intercourse, and this has not been at all affected by the rules usually employed for the control of syphilis. The Royal Commission, whose appointment may at any moment be announced, will take evidence on all matters bearing on prevention, and will in particular consider two methods by which much may be done if they are judiciously employed. The first is the compulsory notification of syphilis, but this notification must be effected in such a way as not to deter patients from seeking medical advice. The experience of those countries where a special form of notification has been adopted, without making public the identity of the patient, shows that this system has worked well; time will tell us the best means of carrying out the method, but some form of it will probably be found to give good results. The second method is to make easy and simple the treatment of syphilis. The more easy it is for patients to obtain medical treatment the more readily will they resort to it, and the diminution of the extent of the disease will before long be manifest. The introduction of salvarsan has done much to simplify the treatment of syphilis, and in it we find a notable adjuvant in dealing with this disease. All institutions which

treat syphilis should be supported and encouraged by the Government, and, while everyone now recognises this, it is tragic to remember that only a few years ago the small Government contribution to the lock hospitals was withdrawn.

Surely if ever there were a matter that deserved to be made the subject of inquiry by a Royal Commission it is the prevention and remedy of syphilis, which reckons its victims by hundreds of thousands and seriously affects the vital statistics of all nations. The direction which the inquiry takes will develop itself as it proceeds, and we believe that the true aim of the Commission will be kept in view. The majority of the members of the Commission may not be members of the medical profession, but so long as the profession is adequately represented thereon scientific purposes will be well served. An enormous social problem must be tackled by representatives of society at large. It is to be hoped that the report of the Commission will not be too long delayed. The matter is pressing, and if chances of early legislation are not taken we know from experience that long delays may follow. A reform put off once or twice tends to be indefinitely shelved.

The Unequal Distribution of Medical Practitioners.

WE are all of us accustomed to the statement that the medical profession is overcrowded. Direct contradiction of the statement made in the sessions of the General Medical Council, which is responsible for the official roll of our body, has never corrected the error in popular opinion; the obvious difficulty which many institutions find in procuring medical officers has never prevented its repetition. Yet one of the most prominent factors in the conditions that paved the way for the National Insurance Act was the deficiency of a supply of medical men adequate as to both number and locality for attendance on the working classes. The initial difficulty to be overcome seemed to lie in the uneven distribution of medical men. It was supposed that pecuniary considerations alone determined this uneven distribution, so that if a better pecuniary return to the practitioner in the poorer industrial districts could be ensured these would rapidly be supplied with good-class medical men, and this is a view of the case that has been put forward in THE LANCET on more than one occasion.

The facts upon which that belief was founded and the belief itself have now been set forth in an article by Mr. C. A. PARKER on "The Panel Doctor and the Insurance Act,"[1] in which is given a table showing the distribution of doctors in relation to population and to the health-rate in three different classes of localities: (1) residential places, such as Hampstead, Oxford, Hastings, Ealing, Eastbourne, and Wimbledon; (2) working-class places, such as Walsall, Dudley, West Bromwich, Bermondsey, Merthyr Tydvil, and Stoke-on-Trent; and (3) mixed places, such as York, Birkenhead, Reading, Portsmouth, Birmingham, and Devonport. From this table we learn that the ratio of doctors to population in the residential places varies from 1 to 476 in Ealing to 1 to 995 in Wimbledon, the mean being 1 to 657; in the working-class places from 1 to 2096 in Walsall to 1 to 8790 in Stoke-on-Trent, the mean being 1 to 4581; while in the mixed places it lies midway, as one would naturally expect—viz., from 1 to 1217 in York to 1 to 2770 in Devonport, the mean being 1 to 1967. Mr. PARKER considers that these anomalies in the distribution of medical practitioners have their origin in the existing system of competition coupled with the acceptance of payment for each individual visit. In such circumstances he would expect practitioners to flock to districts where the patients can afford to pay good fees, and to avoid the working class districts where the fees are necessarily far more modest. He uses this deduction as an argument in favour of a State medical service, since he is a protagonist in the movement for the establishment of such a system. Under a State medical service he conjectures "the salaries paid to medical men in Bermondsey or Stoke-on-Trent must certainly be as good as those paid in Hampstead and Eltham, and possibly better, for the work cannot be quite as congenial." A fallacy in this argument lies in the fact that it is the uncongeniality, not of the work, but of the conditions of living, that makes the average medical man prefer Hampstead or Eltham to Bermondsey or Stoke-on-Trent, or at any rate to the industrial localities thereof. The general practitioner, in the nature of things, is compelled to make his home in the locality in which he practises, and the industrial locality often provides him with neither domestic accommodation nor social surroundings suited to his tastes. The raising of fees in uncongenial quarters would have to be large indeed before any inrush of practitioners would be ensured. The practitioner would, as a rule, rather practise on £500 or £600 a year in a residential district, or a mixed district, where he can find a suitable home circle for himself, his wife, and family, than in a place where he can find none of these things, even though he should be able to earn more than double the amount of money. There are some of the finest exponents of medicine who do not care for social amenities (though few, we imagine, among them are married); and an admirable missionary spirit leads other men of learning and culture to devote their life to medical work in slums, but these must ever be largely in the minority. It is not that the work is so uncongenial; in the actual rendering of their professional services to suffering humanity we believe that the vast majority of medical men are no respecters of persons, that to them suffering is suffering, and equally demands relief whether the sufferer be peer or peasant, plutocrat or pauper. But it is that in their periods of leisure they are deprived of the possibilities of congenial companionship and social amenities, that their lives and those of their wives and children are passed in exile from their own kind when they elect to practise in wholly industrial neighbourhoods.

Few there are who will willingly choose an uncongenial environment when a congenial one lies open to them. Let the mill-owner, the industrial employer, who wonders why there is difficulty in persuading a medical man to take up practice among the families of his employees who live herded together in unlovely streets, ask himself why he does

[1] The Medical World, Sept. 13th, 1913.

not live there, but prefers to reside in a distant suburb among congenial friends and surroundings. He goes to his work at his factory, but returns when it is over to an environment of comfort and, if we may believe some contemporary writers, of considerable culture. The general practitioner can look for no such things beyond what the area in which his practice lies can afford him. The root of the medical problem, as far as the distribution of practitioners is concerned, lies embedded in the concentration of industrialism. An equitable distribution of medical men to population must depend either on an equitable distribution of different classes of the population or on a much greater diversity in the social, educational, and intellectual characteristics among medical men than at present obtains, or than any true medical reformer would like to see. No adjustment of fees will remove the difficulty.

Science and the Land.

JUST about a century ago there were born two men who did, as it proved, an infinite service to their country by developing the resources of science in connexion with its applications to the cultivation of the land. Sir JOHN LAWES and Sir HENRY GILBERT laid the foundations of agricultural science in this country when they instituted the famous laboratory at Rothamsted in which they carried out their researches, now everywhere regarded as classical. This work was a remarkable effort and yielded results of the utmost importance, not only to this country, but to systematic agriculture all over the world. Previous to this work there had been no scientific attention given to this subject. We possessed little, if any, specific knowledge of the functions of the soil, air, rain, and light concerned in the great vital processes of plant growth. The needs of the plant had not attracted anything approaching scientific study, and little regard had been paid to those constituents of the soil which may promote healthy developments towards any particular usage. The only system practised which could claim some application of scientific principles was that known as the rotation of crops. The work, so well begun by Sir JOHN LAWES and Sir HENRY GILBERT, of applying the teachings of biochemistry to land cultivation has led to wonderful developments which have had a remunerative bearing upon the adequacy of the food-supply of the world. In the old laboratory at Rothamsted were laid the foundations of a new science which has helped materially towards the solution of one of the greatest of economic problems. Investigations were so diligently and successfully pursued that new discoveries in regard to plant life were established, and the value of bacteriology in this connexion was soon recognised, high functions being awarded to the organisms of the soil. Knowledge rapidly accrued on these and other points, and facts were brought to light which revealed that the healthy conditions of the soil and of the plant depended to some extent upon the activity of different biological entities.

For some time it has been known that there is in the soil a struggle for existence amongst micro-organisms just as there is in the animal kingdom. The important fact was subsequently established that the fertility of the soil can be very greatly increased by certain antiseptic applications or by treatment at a definite temperature. When certain soils were raised to a temperature of 100° C. for two hours they yielded twice as great a crop as the same soil untreated, when the two were afterwards cultivated in pots at Rothamsted under similar conditions. In the same way, when the soil was treated with the vapour of volatile antiseptics—chloroform, for example—an increased growing power of 30 per cent. was gained. It was subsequently proved that this process did not effect complete sterilisation; protozoa and amœbæ were destroyed, but many bacteria survived, and in the soil the former subsist largely on the latter. The fertility of the soil depends upon the number of its ammonia-producing bacteria, and it follows that when these bacteria lose their destroyers they are left free to carry on the work of fertilisation by elaborating ammonia. It is further probable that part, at all events, of the beneficial work of the sun is to produce a similar result, for by aiding the lives of the fertilising bacteria in killing their destroyers the soil is enriched by the increased activities of these micro-agencies. There has thus been brought to light a pathology of the soil which is deeply concerned in the question of productive power. LAWES and GILBERT initiated a great movement which had for its starting point an inquiry into the chemistry of arable soil and the plant. As, however, the work of exploration proceeded the investigators soon found themselves face to face with biological considerations. It was, for example, for a long time an open question as to what was the rationale of the process by which the nitrogen of the air was directly assimilated by certain plants, notably by the leguminosæ. It was later shown to be due to the work of micro-organisms which were found in large numbers on the root nodules. The future of scientific agriculture must largely rest upon the success which attends the joint operations of the biologist and chemist—in fact, the same lesson is being learned in the field which is being taught in the modern hospital. The bio-chemist is in constant requisition in all paths of investigation, and it is largely to the work of LAWES and GILBERT that we owe the rapid development which has taken place in bio-chemistry, adding considerably to our knowledge of the laws of nutrition, not only in regard to plant life, but to animal life also.

The discovery, moreover, of a process by which great native deposits of rock phosphate are rendered into soluble phosphoric acid available for plant nutrition has been the foundation of an enormous manufacturing industry. The work at Rothamsted still goes on, and it is entrusted to capable and competent hands. Students of all branches of science, in view of the cosmopolitan relations of this work, would deplore, we feel sure, any signs of its abatement taking place for mere lack of financial support. An excellent opportunity has come for making the continuation of these brilliant researches possible and effective. The year 1914 is the centenary of the birth of Sir JOHN LAWES and 1917 that of Sir HENRY GILBERT, and it is proposed to collect the sum of £12,000 to erect a suitable commemoration laboratory at the Rothamsted experimental station, where additional accommodation is badly needed. It is understood that if half of this sum

is raised by public subscription the other half can be obtained as a grant from a development fund. This leaves a sum of £6000 which the public is asked to subscribe, a moderate sum surely for so worthy an object. There should be no doubt about the response when the excellent record and traditions of the Rothamsted Laboratory are taken into account. Whoever has the land, and whatever changes in its tenure any political party devises, the fertility of the soil must count, and Rothamsted has shown us how to promote this fertility.

Annotations.

"Ne quid nimis."

THE LONDON COUNTY COUNCIL AND THE REGISTRATION OF NURSING HOMES.

FOR many years suggestions have been periodically put forward for different degrees of supervision by local authorities over the various enterprises which are included within the somewhat elastic and undefined terms, nursing home, private hospital, therapeutic institute, massage establishment, and the like. Hitherto nothing, with a minor exception to be noted presently, has been accomplished in this direction; and these commercial enterprises are carried on without hindrance from the State or any other body politic. Whether this communal indifference to private therapeutic establishments is economically sound or not is a large question, with much to be said on both sides. There are, however, certain aspects of it which scarcely admit of much dispute; and in view of changes in the prevailing practice in London, for which the London County Council is said to be seeking Parliamentary sanction, the conditions which are probably held to constitute justification for a new procedure become interesting to medical men. Nursing homes and private hospitals of the genuine kind have increased enormously in number during recent years, and it may be taken for granted that the reason is because they fill a public want. Admirably as a great many of these homes are conducted by those (almost always women) who manage them, it must be admitted that the standard varies very widely indeed. In the West-end of London the severity of competition has tended towards an ever-rising level of efficiency; only those proprietors who keep their homes thoroughly equipped and staffed can obtain constant patronage. But even here there are degrees of excellence, and a badly conducted home may contrive to live for a time on a reputation gained in former days. Elsewhere in London, in the suburbs, and in the provinces the proportion of indifferent homes is higher. One of the principal reasons for this is no doubt a financial one; the fees which the public will pay are often not large enough to enable the proprietors both to make a living and to provide first-class service. A recent inquest has served to show, what has long been known, that the nursing in some nursing homes is entrusted to untrained, or very partially trained, women. If the foregoing statements are accepted, there is a *primâ facie* case to be made out in favour of some sort of control, inasmuch as life and death may hinge on the care which is bestowed upon the patient. Whether the disadvantages of such control are held to outweigh the advantages or not, at least it is certain that only an expert medical man is competent to carry out, possibly with the assistance of a very experienced nurse, the necessary inspection. Supervision of medical and surgical equipment or treatment, or of nursing, or of discipline and administration, by a non-medical inspector would be quite useless. There are, however, institutions in existence which stand in need of supervision more urgently than the genuine nursing home. There are, to begin with, numerous establishments on a commercial basis which provide, or affect to provide, for sufferers from a great variety of diseases treatment by electricity, light, heat, baths, massage, and even by radium. Some of these are conducted by medical men and are as genuine as the best type of nursing home; but some of them are in the hands of unqualified laymen, a proportion of whom appear to us as fairly unscrupulous persons. Here, too, inspection would have to be entrusted to medical men, if it were to determine the genuineness of the treatment carried out. Again, all these therapeutic or semi-therapeutic organisations are liable to be used as a cloak for vice; and, unfortunately for honestly conducted places, a sinister reputation in this respect attaches to establishments for massage, electricity, and baths, though nursing homes have also had to suffer the same sort of reflected discredit. The suppression of brothels masquerading under semi-medical guises is wholly distinct from the supervision of respectable places for treatment, and is an affair for the police, not for a medical inspector. It will be evident, then, that any policy of inspection and registration devised for these various kinds of establishment should be carefully thought out and fully discussed, for the question bristles with difficulties which we have only attempted to suggest. If, in the result, methods of inquisition should be adopted, the detailed mechanism should receive careful attention; there should be nothing inconsistent or haphazard, and any system should, in its outlines, be national, not local. London may lead the way, but it should not remain alone. Unfortunately, there are indications that these points are being neglected. For one thing, there has been no (recent) discussion or ventilation of the subject worthy of the name. For another, local authorities are inclined to action which is neither preconcerted nor coördinated. And, worst of all, there is an attempt to deal with the problem piecemeal by administrative action. Thus the London County Council intends next year to seek powers to register and inspect maternity homes and massage and electrical establishments, with the object of assisting the police in the suppression of disorderly houses. This proposal would entail the registration and inspection of practically every nursing home, since massage and electricity are frequently ordered for patients by practitioners, and not a few women now enter nursing homes for their confinements. It is, therefore, important that this result should be realised, and that it should be made plain that, whereas the disorderly house can most fitly be inspected by policemen or municipal officers, the supervision of genuine nursing homes and institutes cannot usefully be conducted by the same machinery. This danger of the extension of by-laws, desirable in themselves, so as to cover cases not originally contemplated and better dealt with in other ways, is well illustrated by the history of the Employment Agency Regulations. About three years ago the London County Council obtained power to register employment agencies, whereupon all nursing homes were called upon either to register or to refrain from sending out, or calling in, any nurse not on the staff for any case however urgent. This surreptitious method of dealing with the registration of nursing homes and allied businesses is highly to be deprecated. By all means, if after full discussion the representatives of the people approve it, let a thorough system of control and inspection be created. Pending such a decision and such a system, it would be preferable to avoid the inclusion of attempts to raise the level of technical

efficiency of respectable institutions in schemes for the suppression of disorderly resorts. To distinguish between immoral houses and nursing homes is a totally different thing from the assessment of relative degrees of merit among the latter. Hastily considered plans for the first may involve unsatisfactory arrangements for the second, unless it is clearly apprehended from the outset that the two questions are entirely different.

CINEMATOGRAPHS ON PRIVATE PREMISES.

THE National Hospital for the Paralysed and Epileptic, summoned in the person of its secretary, has been compelled to pay in fines and costs the sum of £8 3s. for a contravention of the regulations made by the Secretary of State under the Cinematograph Act, 1909. The penalty appears to us to be somewhat in excess of the needs of the occasion, for although those responsible for what was apparently a breach of the law were aware of the nature of the regulations under which public cinematograph exhibitions are held, they were evidently of the opinion that the circumstances in which they were demonstrating with inflammable films were not illegal. The occasion was a lecture delivered to members of the Section of Neuropathology of the International Congress of Medicine, when Dr. Weissenberg, of Philadelphia, demonstrated the value of certain films for educational purposes. The demonstration took place in the lecture-theatre of the medical school, provided with three exits; the hospital fire brigade was present, buckets of sand and wet blankets were at hand, and the films were in a fireproof box, with a safety shutter which closed automatically if a film stopped running. The breaches of the regulations consisted in not indicating the exits which existed, and in not enclosing the apparatus in the prescribed manner. It was contended, on behalf of the hospital, that the lecture-theatre came under Section 7, Subsection 4, of the Act, which says that the statute in question "shall not apply to an exhibition given in a private dwelling-house to which the public are not admitted whether on payment or otherwise." No doubt those who were responsible for the use of the building in question considered that they were exempt from compliance with regulations framed for public exhibitions, in that they were arranging for a lecture to take place in a private building and before an audience of medical men specially invited. An officer of the London County Council had expressed himself satisfied on a previous inspection of the theatre. It would not be right to protest in any way against the strict enforcement of the law, but the authorities of the hospital took every possible precaution. We call attention to the case because the use of cinematograph films to illustrate lectures is likely to increase, and in order that lecturers may be warned as to the restrictions imposed. The Act is not unreasonable in the conditions which it lays down as to places where films may be exhibited, and makes special provision for premises used occasionally and exceptionally for such a purpose.

BAKING POWDER.

Professor E. F. Ladd, Commissioner of Food and Drugs for the State of North Dakota, has recently made a number of observations regarding baking powder, with the object of fixing the standards of purity, quality, and strength. It is directed that the label shall show the net weight and be free from advertising or descriptive matter. Baking powders containing 1 part per 1,000,000 of arsenic or more than 5 parts per 1,000,000 of lead are illegal, as well as those containing harmful or deleterious ingredients. Misleading or deceptive newspaper or other form of advertising is prohibited. When the essential constituent is a compound of aluminium, the baking powder must be labelled "alum" baking powder, and the presence of acid phosphates must be indicated by the use of the term "calcium acid phosphate." It is recommended that the ingredients be named as follows: "This baking powder contains the following ingredients and none other: sodium bicarbonate, calcium acid phosphate, alum, and starch." A standard baking powder is considered to contain not less than 12 per cent. of available carbon dioxides. The sale of baking powder containing added albumin is prohibited. It is of interest to note that the use of egg albumin in baking powders has increased during the past few years. When asked why it was used some of the manufacturers frankly stated that the presence of albumin produced foam for use in demonstrating the qualities of the powder to the consumers at county and other fairs. Such a test is misleading and completely deceives the customer, who is thereby deluded into believing that the particular baking powder under test is greatly superior to others in its raising qualities. One manufacturer stated that the presence of albumin retarded the escape of carbon dioxide, and another claimed that the albumin increased the leavening power in the sense that it provided an additional amount of gas available for the leavening action. Professor Ladd believes that the test really shows nothing as to the real merits of two baking powders, as a baking powder free from albumin might seem to be the poorest in the lot, and yet it might yield the most carbon dioxide, uniformly given off.

RECURRENT ANTERIOR DISLOCATION OF THE ULNA.

IN the *Journal of the American Medical Association* of Sept. 6th Dr. A. C. Yoder has reported a case of a very rare result of injury—recurrent anterior dislocation of the ulna. A woman, aged 36 years, fell downstairs and hurt her left wrist on Feb. 28th, 1910. She immediately came to Dr. Yoder holding the forearm in median pronation with the hand and fingers slightly flexed. As there was a protuberance on the dorsum of the wrist he primarily diagnosed Colles's fracture. But on examination he soon discovered that this fracture was not present. The ulna was dislocated forwards and was easily reduced, but when the pressure was released the dislocation recurred. Motion in all directions was somewhat limited by the pain. The deformity on the back of the wrist could not be reduced by manipulation or pressure. An anterior splint was applied and rest was advised for several weeks. The splint was readjusted several times and then abandoned. The ulna remained in its normal place only when held there. The patient was finally advised to wear a wristlet, and to use her wrist and hand as much as possible. A skiagram taken a month after the injury did not show any fracture. In June, 1911, the patient returned complaining of pain and weakness in the wrist. Motion was practically normal, but the ulna was still dislocated. In March, 1913, the condition was as follows. Motion was practically normal, but there was some hyperextension and somewhat diminished flexion. The hand was used for all kinds of heavy work. The deformity on the back of the wrist persisted. When the hand was in supination the anterior lower end of the ulna projected anteriorly, but was freely movable and easily replaced; in fact, reduction occurred when the hand was pronated. The bone could be felt slipping into the sigmoid cavity of the radius as the hand passed from supination to pronation. It was concluded that the triangular fibro-cartilage and the anterior radio-ulnar ligaments were ruptured. The deformity on the back of the hand was difficult to explain. Several skiagrams

were taken and examined by experts. The conclusion was that there was slight backward dislocation of the radio-carpal joint, and that the carpal bones were crowded together and more or less rotated on their axes or even slightly dislocated. Other evidence of backward dislocation was the fact that the whole wrist and hand lay in a more dorsal plane than normal. Some of those who examined the plates held that the semilunar was dislocated. Recurrent dislocation of the ulna is very rare. Cotton in his classic work, "Dislocations and Joint Fractures," reports two cases, but does not think the lesion has previously been described. In one case the young girl "had as the result of trauma a slipping of the ulna on the radius with every movement of supination. See was suffering severely from ulnar neuritis as a result of constant irritation. Operative treatment was declined; mechanical treatment failed on account of the intolerance of the damaged nerve to pressure." There was also a Colles's fracture. The second case was "in all respects similar except for the neuritis. A cure was effected by an osteotomy that in effect tightened the radio-ulnar ligaments." Cotton adds that he has seen many cases in which there was a little looseness after Colles's fracture, "but ordinarily it is of no consequence." Hoffa has reported three cases of recurrent dislocation of the lower end of the ulna and Courtin the same number. The latter refers to one case mentioned by Hamilton. Dislocations of the radio-carpal joint are also rare. Stimson says that there is a total of about 70.

OLD ENGLISH HERBALS.

IN the mind of the average reader the word "herbal" generally calls up a vision of a magnificent folio full of illustrations. Such, for instance, are "The Great Herbal," the "herbals" of Lobel, Turner, Lyte, Gerard, and Parkinson. This last-mentioned book was more accurately speaking a treatise on gardening than a herbal proper, although its subtitle is "An Herball of Large Extent." It main title was "Paradisi in Sole Paradisus Terrestris," wherein the author's name was ingeniously concealed, for Parkinson (the spelling with "u" or "o" is of no moment) is, in Latin, "Paradisus in Sole." "The Great Herbal" appeared in 1526, but in the previous year—namely, 1525—there had appeared "Banckes's Herbal," which, says Mr. H. M. Barlow in an interesting paper now before us,[1] was a small quarto volume, and was the first of a series of small books, chiefly in blackletter, without illustrations, which appeared during the next 30 years. They were all more or less reprints of Banckes, with sundry additions and alterations, though after a fashion not unknown at the present day their publishers did not hesitate to associate the names of Macer, Linacre, and Askham with the book in order to give a fictitious importance to it. In remote country places, and we fancy in the East-end of London, a little book called "Napoleon's Dream-Book" may still be bought. Mr. Barlow has examined a number of these little herbals and has compared them from a bibliographical point of view. His researches have led him to the conclusion that the origin of the herbal "will probably be found in one or more of the numerous fourteenth or fifteenth century manuscripts on the virtues and properties of herbs which are still preserved in various libraries of this country." Banckes' Herbal and its successors are very little known, so that Mr. Barlow's careful description and comparison are a most useful link in the chain of medical historical bibliography. The remainder of his paper is devoted to the great illustrated sixteenth and seventeenth century herbals. These works, in addition to their medical ideas, are of great value as illustrations of the rise and progress of botanical drawing. Such are the beautiful plant drawings of Fuchsius, 1542, whose name is known to everyone by the fuchsia having been named in his honour. The large English herbals mentioned above were nearly all illustrated with figures by continental artists, and as the books are scarce it is useful to know that many of the illustrations will be found in a handy form in R. G. Hatton's "Craftsman's Plant Book."

[1] Old English Herbals, 1525–1640. By Horace Mallinson Barlow, Assistant Librarian, Royal College of Physicians of London. Reprinted from the Proceedings of the Royal Society of Medicine, 1913, vol. vi., Section of History of Medicine, pp. 108–149.

COMPLIMENTARY DINNER TO PROFESSOR SHERIDAN DELÉPINE.

Professor Delépine was entertained at dinner in the Midland Hotel on Oct. 10th by a number of those who have worked in his laboratory during the 21 years that he has been associated with the University of Manchester. An address signed by 200 of his former pupils was presented by Dr. W. J. Howarth, who expressed affectionate regard for Professor Delépine, pride in his scientific attainments, and deep admiration of his work for the University and for the community in which he has so fruitfully laboured. And, indeed, the public health department, in whose construction Professor Delépine has so much assisted, is one of which the University and the City of Manchester may be justly proud, while it has served as a model for many subsequent institutions. Dr. Newsholme, principal medical officer of the Local Government Board, presided, and in his remarks referred to the inspiration which they owed to Professor Delépine and to the value they attached to his pioneer work in applying pathology to public health work. Other speakers testified to the services of their guest as a scientist, teacher, and organiser, to his great success in training medical officers of health, and to the many important positions as public health officers that were held by his former pupils. Dr. J. Niven, medical officer of health for Manchester, said that Professor Delépine had made in Manchester a great public health school, probably the finest in this country, and much less than the usual allowance for local patriotism has to be made here.

RECOVERY FROM TUBERCULOUS MENINGITIS.

RECOVERY from tuberculous meningitis is very rare; only a limited number of cases in which the diagnosis was beyond doubt has been recorded. In the *American Journal of the Medical Sciences* for July Dr. R. L. Pitfield has given notes of the following case. A man aged 55 years was admitted into hospital with symptoms of meningitis, from which he had suffered for four or five days. He was very tall, measuring over 6 ft. 4 in., but far from robust. He was delirious, and there were retraction of the head, scaphoid belly, and tache cérébrale. At each apex there was evidence of tuberculosis, and the history indicated that the disease had existed for 10 years. The present attack began with violent vomiting, unendurable headache, and pains in the arms and legs. Kernig's, Oppenheim's, and Babinski's signs were present. The pupils were contracted and fixed. Lumbar puncture was performed and 80 c.c. of fluid spurted out. It was bloody from puncture of a small vein, and contained three acid-fast bacilli which, in view of the pulmonary tuberculosis, were assumed to be tubercle bacilli. The pulse was 70, respiration 20 and jerky, and the temperature 99° F. The urine was bloody and contained albumin and casts. Marked improvement followed the withdrawal of the fluid. The spastic symptoms slowly receded. The mind became clear in a few days and the headache disappeared. Thirty grains of urotropin were given daily. After three weeks' stay in hospital, to the amazement of everyone, he suddenly got up, asked for his clothes, and returned home. He then had some rigidity of the neck

and some evidence of Kernig's sign. Two years later he was able to conduct his business and there was no sign of meningitis. Dr. Pitfield considers that the fact that he was an adult and infected with a low-grade form of tuberculosis contributed to his recovery. Perhaps the most interesting case of recovery from tuberculous meningitis is one reported by Rumple, who at the Aerztlicher Verein, Hamburg, exhibited the brain of a boy who died from phthisis. At the age of 9 years he had acute meningitis, with retraction of the head, hyperæsthesia, absence of knee-jerks, double optic neuritis, ptosis, and palsy of the external recti. Lumbar puncture yielded a fluid containing tubercle bacilli. The boy was treated by repeated lumbar puncture and recovered. Though for some months dull and stupid, he eventually recovered his normal mental powers and was able to keep pace with other children at school, while all physical signs disappeared. For four years his health remained good. He then developed a tuberculous abscess in the axilla, phthisis followed, and he died eight years after the onset of the meningitis. At the necropsy it was found that the membranes over the fissure of Sylvius on either side of the brain were thickened and glued together, but no miliary tubercles were visible. Another case was reported in our columns last year by Dr. W. Tyrrell Brooks and Dr. A. G. Gibson.[1] Dr. Pitfield gives 29 cases (including the one under his care) of undoubted tuberculous meningitis in which recovery took place. In 10 a necropsy confirmed the diagnosis, and in 18 tubercle bacilli were found. In 4 tubercles were seen in the choroid. He estimates that recovery takes place in 1 in 200 cases of tuberculous meningitis. In several of the Reports of the Phipps Institute McCarthy states that he frequently found evidence of healed tuberculosis of the nervous system in persons who eventually died from phthisis. As to treatment, Dr. Pitfield recommends feeding by the nasal tube, administration of morphine for the pain, and of urotropin, as this is decomposed into formaldehyde which is found in the cerebro-spinal fluid.

MEDICO-LEGAL WORK IN CALCUTTA.

WE have received a reprint from the *Indian Medical Gazette*, Vol. XLVIII., of a paper by Major O. St. John Moses, I.M.S., entitled "Review of a Year's Medico-legal Work in the Calcutta Morgue, 1912 (including Comparative Figures for the Triennium 1910-1912)." There is much that is interesting in medico-legal work in India, as certain forms of death are met with which are peculiar to that country and are rarely if ever met with in England. During the year 1912 252 cases were sent up by the police for post-mortem examination as cases in which death appeared to occur under more or less suspicious circumstances. Under the heading of natural causes was one of cerebral apoplexy in a young Mahomedan male, aged 12; the boy was to all external appearances quite healthy, and there was an entire absence of all history of violence. Another case of interest was that of a Hindu male, aged 48, who died from cerebellar apoplexy. Each hemisphere of the cerebellum was ploughed up by a blood-clot, which in the case of the right hemisphere was of about the size of a small orange. Spontaneous rupture of the spleen has been stated to occur fairly frequently in India. One case came to Major Moses's notice in 1912, but it was the only instance of this nature met with in the three years 1910 to 1912. The remarks on opium poisoning are of interest. There was, as in previous years, a great preponderance of opium cases over all other cases of poisoning. Major Moses is emphatic in urging that everything possible should be done to place such a convenient and apparently popular means of self-destruction out of reach of the class among whom such a crime as suicide is of most frequent occurrence. A large number of poisonous substances are sold in the "pashari's" shop and in the bazar generally without restriction or licence, and it is much to be regretted that these poisons, especially opium, are so easily procurable by ordinary persons who might want them for unlawful purposes. As Major Moses says, the question resolves itself into the framing of a regular Sale of Poisons Act, whereby the State would do all that lies in its power to restrict the procuring of poisonous substances and to diminish the incidence of crime at any rate by such means. Amongst the native races, however, this would probably be a matter of great difficulty.

[1] THE LANCET, Sept. 21st, 1912, p. 815.

THE OHIO AND MISSISSIPPI FLOODS.

WHEN the great floods of March and April occurred in the United States this year in the valleys of the Ohio River and the Mississippi an immediate call was made for help from the National Guard, which parallels our Territorial Force, and Major Charles Lynch, of the Medical Corps, United States Army, has given in the *Military Surgeon* for August an account of the work then done by the medical department. It was real active service. Conditions changed rapidly; a town in safety one day and helping others was on the next day in dire distress. Railways and roads were cut, and to bring help required enthusiasm and ingenuity. There was plenty of initiative, and the help given was most valuable. To begin with, many were saved from drowning and also from starvation, but the work of the medical department appeared most conspicuously in the prevention of disease. When a city, being flooded, was taken in hand little could be done beyond providing food and shelter till the water fell, then the place was divided into districts, in each of which the sanitary *personnel* went round as organising inspectors and filled out forms reporting conditions of houses and offices, presence of sick, especially of infectious disease, and measures required. This had to be done quickly. In Hamilton, Ohio, 4000 reports were on file in two days. The town was gone over four times while cleaning was going on busily. Leaflets were issued directing boiling of all water, removal of mud, and formation of temporary privies if needed. Dead animals were burned, but a shortage of fuel sadly impeded some of the orders. The precautions, however, averted the danger of an outbreak of typhoid fever, and the infectious disease that gave most trouble was cerebro-spinal meningitis. Major Wadham describes the management of an epidemic of this disease amongst flooded out negroes at Deckerville, Arkansas. All were living in crowded railway wagons standing on a high embankment just above the water. No isolation was possible, but the four cases injected early with Flexner's serum recovered; the two not seen till the fifth day died. Preventive inoculation also limited the extension of the disease.

SULPHUR MINERS AND PHTHISIS.

IN the discussion at the Section of Hygiene and Preventive Medicine of the Seventeenth International Congress of Medicine on the Effects of Dust in Producing Diseases of the Lungs, Professor Carozzi, of Milan, is reported to have said that workers in the sulphur mines of Sicily, however seriously affected with pneumoconiosis and chronic lesions of the bronchi, hardly ever suffered from pulmonary tuberculosis. In this connexion the work recently published by Dr. Alfonso Giordano[1] affords some interesting information. He holds

[1] La Fisiopatologia e l'Igiene dei Minatori. By Dr. Alfonso Giordano, Professor of Mining Hygiene, University of Palermo. Issued by the Ministry of Agriculture, Industry, and Commerce. 1913. Published by G. Bertero and Co., Rome. Pp. 357. Price 3.50 lire.

that the question whether sulphur possessing disinfectant properties can hinder or favour the growth of Koch's bacillus is not yet decided. From remote times sulphur has been burnt with resinous wood in the form of incense at religious rites as a purifying substance. It was also recognised as a disinfectant by the ancient Greeks, for, according to Homer, Ulysses fumigated with sulphur the chambers in which lay the corpses of the Proci, and Pliny relates in his "Natural History" that rock sulphur was used in the ceremonial consecration of houses. Galen used fumigations of orpiment in the treatment of consumptives, who in his time were also sent to Stabia, near Vesuvius, in order that they might inhale the air impregnated wi 'i sulphurous vapours. On the other hand, sulphur has been blamed for producing conjunctivitis and causing irritation of the respiratory mucous membrane. Piccinini from his observations of sulphur workers arrived at the conclusion that sulphurous vapours had a favourable influence on the general condition of the organism, and particularly on the respiratory system, while Dr. Burruana, in a report on the diseases of the Sicilian sulphur miners communicated to the first International Congress on Industrial Diseases, stated definitely that phthisis was not met with among them for the reason that the sulphurous anhydride inhaled by them prevented the development of Koch's bacillus. It has long been known that sulphur miners expectorate a bluish-grey sputum, and Dr. Giordano, led by this fact to investigate its pathological histology, had his attention fixed by the forms of the sulphur crystals, the sharp points of which penetrate the pulmonary tissue and carry there those pathogenic micro-organisms which happen to be in the mucous membrane. He found Koch's bacillus associated with pneumoconiosis in the peculiar sputum in greater or less quantity. Considering the squalor and poverty of the miners it must be expected that there should be more or less tubercle among them, but whether the sulphur acts as a preventive to its development there is not enough evidence to show. In the air outside the mines 500 or more pathogenic organisms were found per litre, while in the deeper galleries the number diminished considerably to about 20 or less. While B. coli and B. typhosus were plentiful, the tubercle bacillus was absent. Probably these facts and the well-known antiseptic properties of sulphur have suggested what there are not enough available statistics to prove.

THE SANITARY CONDITION OF CINEMATOGRAPH THEATRES.

THE extraordinary multiplication of cinematograph theatres, which spring up with fungus-like proliferation, and often under conditions quite unwholesome for human life, renders it imperative that steps should be taken to safeguard the health of those who frequent them. We have already called attention to this subject in THE LANCET, and we repeat here that it is not to the cinema theatre as such that we take exception, but to the way in which many shops and other buildings totally unsuited to the purpose are being converted into these places of public congregation. From the sanitary point of view the most important aspects of the question centre in adequate opportunities for throwing open the building to the penetration of disinfecting light, in proper ventilation, and in the provision of a sufficient cubic airspace for the audience that assembles therein. In all these qualities many, if not most, of the converted shop cinema shows are wofully defective, and the problem of dealing with them is becoming daily more urgent. Chicago is wrestling with this problem with American resourcefulness. The *Bulletin* of the Chicago School of Sanitary Instruction for Sept. 20th, published for free distribution by the Department of Health, announces that all picture theatres that are proved on investigation to be satisfactorily equipped in this matter will in future receive a certificate to that effect to be displayed at the ticket office, and the public are cautioned to patronise only those theatres showing this certificate. Below the certificate is a picture of two Petri plates taken respectively from an unventilated and a ventilated theatre, the first of which shows 250 bacterial colonies, the latter 5 only. If it is not possible at the present stage of affairs to compel all cinematograph theatres to obtain a licence to be granted only on evidence of their sanitary efficiency, at least those that on examination are found to be in such a state might be furnished, as is done in the case of certified milk, with duly attested evidence of the fact to which all those who can obtain it would be only too glad to give prominent place as a special attraction to their prospective patrons.

WE learn with much regret of the death at the early age of 43 of Major H. C. French, R.A.M.C.

THE demonstration by Dr. Hideyo Noguchi which was to have been held at the Royal Society of Medicine on Monday afternoon last has been postponed on account of Dr. Noguchi's illness until Monday next, Oct. 20th, at 5.30 P.M.

AT the opening meeting of the coming session of the Society of Tropical Medicine and Hygiene, which is held this evening, Friday, Oct. 17th, at 8.30 P.M., at 11, Chandos-street, W., Sir R. Havelock Charles will deliver the Presidential address on Neurasthenia and its Bearings on the Decay of Northern Peoples in India.

FOUR Gresham lectures on Harvey, Darwin, and Huxley will be delivered on Tuesday, Oct. 28th; Wednesday, Oct. 29th; Thursday, Oct. 30th; and Friday, Oct. 31st, by Dr. F. M. Sandwith, Gresham Professor of Physic, at the City of London School, Victoria Embankment, E.C. The lectures are free to the public and will begin each evening at 6 o'clock.

WE regret to record the death on Oct. 13th of the distinguished psychiatrist, Sir John Batty Tuke, M.D., representative of the Royal College of Physicians of Edinburgh on the General Medical Council, and formerly Member of Parliament for the Universities of Edinburgh and St. Andrews. An obituary notice will be published in our next issue.

SCHOOL MEDICAL INSPECTORS.—A meeting of assistant school medical officers and school medical officers engaged in the medical inspection of school children, convened by Dr. C. W. Hutt, was held on Oct. 10th at the offices of the Society of Medical Officers of Health, under the chairmanship of Dr. Herbert Jones. Those actually engaged in the work of medical inspection of school children were well represented. In the course of the discussion the advisability of school medical officers and assistant school medical officers joining the Society of Medical Officers of Health was suggested on the grounds that the society can place at the disposal of its members an organisation which is the result of the experience of many years; it has considerable funds at its disposal, in addition to a well-established journal. The chairman pointed out that the constitution of the Society of Medical Officers of Health permitted any medical practitioner, male or female, engaged in the medical inspection of school children to become a member. It was resolved to form a group within the Society of Medical Officers of Health of medical officers engaged in the school medical service in order that the views of medical inspectors of school children should be adequately placed before the Society of Medical Officers of Health. Dr. C. W. Hutt and Dr. A. Ashkenny were appointed to act as honorary secretaries for the group *pro tem.*, and were instructed to inform the council of the society of the formation of the group, and to make arrangements for the first meeting of the group to take place on Nov. 7th.

THE MEDICINE OF THE BABYLONIANS AND ASSYRIANS.[1]

BY PROFESSOR MORRIS JASTROW, JUN.,
PROFESSOR OF SEMITIC LANGUAGES IN THE UNIVERSITY OF PENNSYLVANIA.

OUR knowledge of the medicine of the Babylonians and Assyrians is derived almost exclusively from the great library of clay tablets gathered in his palace by King Ashurbanapal of Assyria, who ruled from 668 to 626 B.C., and which was discovered by Sir Austen Henry Layard in 1849 in the course of his excavations at the Mount of Kouyunjik, opposite Mosul, the site of Nineveh, the capital of the later Assyrian empire. About 30,000 fragments of the bricks, or clay tablets, of the collection, which may well have numbered over 100,000 when complete, have found their way to the world's greatest treasure house, the British Museum. The term "library" may justly be applied to the collection, for there is scarcely a branch of knowledge that is not in some way, and to some extent, represented. Through the remains of the collection we are enabled to form an estimate of the intellectual achievements of both the Babylonians and Assyrians, for although the tablets date from the comparatively late reign of Ashurbanapal, the collection represents, for the larger part, copies made from older originals by the scribes of the Assyrian king who were sent to the temples in the south to copy the literary remains of the past that had been gathered in the course of many centuries in the archives of Babylonian temples.

Included in the collection are several hundred medical texts—indeed, at least 500 fragments may be placed in this category, though, for a reason that will presently become clear, the dividing line between a medical text and an incantation on the one hand, or an omen text on the other, cannot always be sharply drawn. Outside of Kouyunjik very few medical texts have come to light; one of the few specimens it will be my privilege to place before you this afternoon. No doubt this paucity of medical texts outside of Nineveh is accidental, for the medical section in the royal Assyrian library is clearly of Babylonian origin.

The Age of the Medical Tablets.

We have no definite means of determining the age of the medical tablets from which the scribes of Ashurbanapal made their copies. A general feature of these texts, which holds good, however, for all the other sections of Babylonian-Assyrian literature, is their composite character, containing, by the side of later elements, much that is far older. It is characteristic in general of the literary productions of the ancient Orient that the old is preserved alongside of the new; the pentateuchal codes of the Old Testament may serve as an example, where often, in the same chapter, very ancient practices, revealing in an unmistakable manner the primitive ideas on which they rest, are incorporated in the laws that belong to a far more advanced and later age. So in the medical texts of the royal library we have the accumulated experience of the past combined with the science of the age in which the compilation was made. If dates are desired one may say in a rough way that the treatment of disease as revealed in the medical texts of Ashurbanapal's library must refer to a period of at least 2000 B.C. The proof for this is to be found in the famous code of Hammurabi, dating from circ. 1950 B.C., in which not only the word for physician, *Asu*, signifying "healer," occurs, but where we find included, in the portion of the code devoted to injuries, the laws in regard to the fees for surgical operations, as well as the fines for fatal errors on the part of the surgeon. No doubt you are familiar with those regulations which, curiously enough, fix the fee in the case of a successful operation according to the station occupied by the patient. The ordinary freeman pays, e.g., for an operation on the eye 10 shekels (less than £1), while a member of the ruling class gets a reduction of 50 per cent., and in case the operation is performed on a slave the owner of the slave pays 2 shekels. The punishment for the failure of an operation, on the principle that the physician had no right to take the risk, similarly varies according to the position of the patient. If he be a slave who in consequence of the operation dies, the surgeon is to replace the slave by another; if the slave loses an eye the physician must pay one half of the value of the slave. If, however, the eye of a freeman is destroyed as a result of the operation the procedure is quite simple—the physician's hand is cut off. Such regulations point, on the one hand, to establishing medical treatment, but, on the other, in the inclusion of surgical operations among "injuries" and in the attempt to apply the *lex talionis*—the legal *quid pro quo* principle—to medical practice, there is revealed an aspect of medicine distinctly primitive, and which warns us against going too far beyond the time of Hammurabi for the beginnings of medical treatment, except as an accompaniment of incantations and magic rites. The circumstance, too, that the code of Hammurabi makes no provision for other forms of medical treatment than surgery may be taken as an indication that at that period medicine in general had not yet developed to the stage in which we find it in the medical texts proper.

Before leaving this subject it may be interesting to point out as an indication of the beginnings of specialisation in surgery that the code distinguishes between the ordinary surgeon and the veterinary, the latter being spoken of as "the ox or ass healer"; and, on the other hand, in the medical texts so far published surgery is not introduced. It would seem from this that the physician as surgeon was sharply differentiated from the healer of diseases, and perhaps not placed on the same level as the latter.

[Professor Jastrow here dealt with the two avenues of approach leading to medicine—namely, incantations accompanied by magic rites on the one hand, and divination practices on the other. He then continued:—]

The Character of the Texts.

The medical texts in Ashurbanapal's library, to which we are now prepared to turn, reveal in their phraseology the attachment to the two sources whence they are derived—incantations and divination practices. The terms used to indicate that someone is troubled with a disease are derived from the "incantation *motif*"—namely, "eating and seizing." Pain is when a man's head, stomach, bowels, liver, or any other portion is being eaten, or, more literally, that someone is eating a part of the body. The expression finds its natural explanation as a transfer of medical diagnosis to the belief that a demon is gnawing at some part of a man's body. The other term, "seizing," as, for example, that a man is "seized" with a fever, a headache, or the like, is similarly derived from the theory that a demon has taken hold of a man's head, stomach, breast, and so forth.

Interspersed with the remedies are incantations and magic rites, and we are constantly surprised at finding in connexion with prescriptions of medicinal potions or mixtures, such directions as that the patient should put a hair taken from an old woman into his mouth, or that he should swallow the mixture while holding it in his left hand, and drink it to the accompaniment of an incantation. Lastly, the texts themselves are compilations from various sources. The aim of the compilers is to gather the experience of the past. We have in the medical texts the description of the physical ailment followed by a larger or smaller series of violent remedies. It was the business of the physician to select in each case one that, in his judgment, would be the most likely to bring about results, or he would try them all in some order of succession in the hope of finding one to fit the case.

Now, while there are many hundreds of medical texts that still lie unpublished in the British Museum, it is, I think, perfectly safe to say that the general principles of medical treatment and the general character of the remedies applied as resulting from the material already at our disposal, will not be essentially effected. Progress will be rather in the direction of identifying the substances used as drugs. This problem constitutes at present the most formidable obstacle to a complete understanding of the medical texts. In a purely formal manner we may distinguish two classes of these texts—those in which incantations play a secondary part, being merely, together with magic rites, accessories to the treatment, and those in which incantations and rites are quite as prominent as, and indeed overshadow, the treatment. I am inclined to regard the latter as considerably older than

[1] A lecture delivered in the Section of the History of Medicine of the Royal Society of Medicine on Oct. 10th, 1913. It will be published in full with copious extracts from the Babylonian-Assyrian medical texts in the Proceedings of the Society.

the former, and it will, I think, be regarded as natural to find in later texts the medical aspects more largely emphasised and the incantation element gradually reduced in proportion.

Remedies for Diseases of the Stomach, &c.

We have not yet discovered in the medical literature of Babylonia-Assyria any compilation corresponding to such extensive and systematic note-books like the papyrus *Ebers* or the Berlin papyrus in Egyptian medical literature, though it is quite likely that such complete compilations exist. We have, however, portions of a number of series, each one of which covers several tablets, and that deal with a variety of diseases. One of these, known from the opening words as "When a man has some internal disease," deals, so far as we can judge from the portions published, with a variety of troubles having their seat in the stomach, intestines, and liver. The tablet begins with the diagnosis of a cold which has settled in the stomach: "If a man is sick of a cold, which has turned into stomach pains, let him compound 'pestilence' root, liquorice root, *Tar-mush* plant" (perhaps the bean) "*Shi-man*, *Shi-shi*, *Tu-mu*, and 'tongue' plant—these seven drugs placed in wine let him drink, as the star rises" (i.e., at night and in the morning) "without food and he will recover."

Leaving aside the identification of these plants for the present it will be seen that we have here a simple prescription directing the physician to prepare a mixture of drugs made from roots and plants to be taken as a potion in the morning and evening without food, or, as we would say, before his meals. There is nothing suggesting any connexion with the magic ritual. In the next paragraph, however, directions for a magic rite accompanied by an incantation are set forth. The one who has stomach pains has to be taken during his illness on a boat, and a series of incantations, technically known as "house of light," are to be pronounced over him, and, it is added—precisely as in the case of the potion—"he will recover." There follow a series of variant medicinal descriptions and directions for the same trouble, which illustrate the leading principle of these texts, to put together on the basis of past experience as many remedies as possible. No differentiation appears to be made as to the stage of the disease at which the one or the other remedy is to be administered. On the other hand, the enumeration reveals some interesting methods of procedure. "If the same is the case" (indicated by the repetition of the sign) "he should suck the white meat of a swine without other food, and he will recover. If *ditto*, let him take liquorice root in water without food, and he will recover. If *ditto*, let him pound salt with water and drink it without food and he will recover. If *ditto*, let him mix *Aman* salt" (in all probability the origin of our *Sal ammoniac*) "without food, and he will recover. If a man has stomach pain, let that man kneel on his feet and have burning juice of cassia poured over him, and he will recover. If *ditto*, let him kneel on his feet and let cold water flow over him. If *ditto*, place his head downwards and his feet up, strike his cheek forcibly, rub him violently, say to his stomach, 'Be good'; with the left thumb manipulate his hand 14 times, 14 times manipulate his head, and roll him on the ground. If *ditto*, mix *male* pestilence root, liquorice root, *Shi-man* plant, *Tar-mush* plant, *Mashtakal* plant and *Cynoglosson*, and either in water or in wine let him drink it." These eight remedies furnish a good bird's-eye view of the scope of Babylonian-Assyrian medicine. The use of liquorice root or of salts in stomach disorders will be admitted to be rational. Swine's flesh plays a prominent part in magic rites, and would raise a suspicion that this remedy is symbolical rather than therapeutic, to coax the demon out rather than to help the patient. The reference to the kneeling position, in order to relieve the tension of the muscles of the abdomen, is interesting, and so is the stimulation of the circulation by pouring hot or cold water over the patient, though the procedure seems somewhat violent. Still more drastic and yet having a rational basis is the effort to produce an equable circulation of the blood by placing the head of the patient low and the feet high, and by administering what was evidently a form of massage manipulation. Will it be regarded too fanciful if I suggest that the direction to encourage the stomach to accept the violent treatment by telling it "to be good" is to be explained as psychical—the natural impulse to accompany the physical exertion on the part of the physician by emitting some sounds?

Lastly, let me call your attention to the alternative to take the medicine in water or in wine, a valuable indication that the physician recognised the addition of the wine or the water as purely accessory. In most cases light wine rather than water is prescribed, evidently for the purpose of making something more palatable, precisely as physicians nowadays add some substance agreeable to the taste.

Tablet Showing Predominance of Magic Rites.

By way of contrast let me now take up a short specimen from the second class of medical texts in which magic rites and incantation formulæ predominate. A tablet belonging to a series for the cure of pain in the muscles of the joints begins with a case of rheumatism settling in the lower extremities. The following directions are prescribed: "Encircle water, taken from the Euphrates with rotten grain, place within the circle a *Sha-Shur* reed. Take a measure of corn, place it on the reed, and let the sick man sit on it. Fill a measure with rotten corn and put it on the reed and place the foot of the sick man on it, and cover the foot with a putrid broth made of the rotten grain." There is apparently described here a poultice of water and grain on which the man has to sit and which has also to be placed on his foot. This might at a stretch be regarded as a primitive method of easing the pain, but the manner in which the directions are given reveals the magic character of the rite and they are precisely of the same order that we encounter in pure incantation texts, where great stress is laid on obtaining water from a sacred stream such as the Euphrates was. The method of surrounding the water with an embankment of grain is likewise indicative of a symbolical rite. The emphasis placed upon the quality of the corn as bad or rotten, and that the broth or poultice is designated as putrid food, leave no doubt that the purpose of the mixture is to disgust the demon.

A Medical Text of the College of Physicians of Philadelphia.

As a third example in illustration of the general character of medical texts, I choose one which the College of Physicians of Philadelphia was fortunate to acquire about a year ago, and which it is my privilege, with the kind permission of the authorities of the Philadelphian institution, to bring before you for the first time. Its special interest lies in the fact that it does not form part of the Nineveh library, but represents a private possession of someone who, to judge from the style of the written characters, lived in the seventh century B.C.; the name of the owner is given at the close of the tablet, which turns out to be an extract from a large series, covering at least five tablets, and of which portions have been published by the British Museum authorities. By means of a comparison with this publication, I have succeeded in completing the defective portion of the obverse and in reading most of the badly weathered reverse. The writer evidently extracted for his own private purpose—presumably for his medical practice—such of the directions from the large handbook as seemed efficacious to him. The extract is from the first two tablets of the series dealing with the various forms of fever and of headaches. The word for fever is "fire," which recalls an interesting parallel in the Babylonian Talmud—the great ritualistic compilation of the Jews, which, by the way, is full of ancient medical lore—where the question is asked, "What is fever?" to which a Rabbi replies, "A fire of the bones"—the same expression, therefore, as is used in Babylonian-Assyrian medical texts.

The tablet begins: "If a fever seizes a man, localised in the nerves of the forehead, and affects his eyes, so that his vision is clouded, and he is inflicted with an acute inflammation, and his eyes water, pound one-third of a measure of thorn plant with crushed 'birth stone,' take one-third of a measure of it for the head that pains; knead with cassia juice, wrap it 'around the head,' attach it" (by means of a bandage) "and for three days do not remove." The remedy consists, as you see, of a compress, to be applied to the head, containing some burning substance to draw out the inflammation or perhaps to produce a counter-irritation. A number of variant remedies of a similar character follow, including what is particularly valuable—a wash of a certain kind of alkali. "Wash his eyes," the text reads, "until the tears cease to flow." Further directions are given to put a poultice of various ingredients around his head, to tie it with a strip of a coloured thread, to rub oil on his head, to keep him in a sheltered compartment, and to continue this

treatment for three days. Despite the difficulty of identifying all the drugs mentioned, enough ingredients of the various poultices are clear, such as fat, various salts and alkalies, to show that the main thought was to reduce the swelling, and by means of a wash or ointment to stop also the flow from the eyes. The careful treatment—to keep the patient in a dark or sheltered compartment, so as to remain perfectly quiet—should be especially noticed, as well as the accurate indications to keep the bandage in place by means of a strip of thread.

Our text then passes on to headaches, always regarded with great seriousness in antiquity, just because of their common occurrence. There is a special demon of headaches, "*Tiu*," whose functions cover the entire range from an acute pain to insanity. The Talmud, which I have already quoted, has a significant saying about headaches and other ills: "Any sickness, except intestinal trouble, any pain except heart spasms, any ache, except a headache," and it adds rather cynically, "Any malevolence except that of a woman."

The text continues, "If a man's head burns, his head oppresses him, particularly his forehead, compound" (text defective) "with oil; wrap it around his head, press it on tight, and do not remove for three days." "If ditto, take one third of a measure of a powder *Shurman* wood, 10 shekels" (here used as a weight) "of powdered *Suadu* wood, 10 shekels of cypress, 10 shekels *Kukru*" (perhaps chicory), "10 shekels of powdered cassia, 10 shekels of a certain kind of grain, 10½ shekels of dates, 10 shekels of thorn plant, 10 shekels of good standing wine, 10 shekels of another kind of flour; mix them together, knead with wine into a paste, crush it and strain it, take one third of a measure of it for the head which pains, knead it with cassia juice, wrap it around, attach" (by means of a bandage) "and ditto" (i.e., for three days do not remove). Towards the close of the text there is a particularly striking reversal to the older form of sympathetic magic in the treatment of disease, and so undisguised a reference to the belief in a demon as the seat of disease that I cannot resist the impulse to quote it. "If a man's forehead is affected and the demon in his body cries out" (one is reminded of the passages in the New Testament like Mark i. 23, and Luke, chapter iv., where demons are represented as "crying") "and does not depart, is not restrained through bandage or incantation (that is if all remedies fail) then slaughter a captured *Karka* bird, squeeze out its blood, take a bit of its fat and the skin of its crop, burn it in a fire, mix with the blood, seed, and pronounce the incantation 'evil finger of man' three times; sprinkle and rub on the side of the affected forehead and the breast."

The examples given will suffice to show the general character of medical treatment among Babylonians and Assyrians at its best and worst, the highest level reached, as well as the persistence of older methods. It is significant that even our physician who extracted the larger handbook included the old magic remedy in his copy as a remedy to be resorted to in the last instance, which reminds us that even at the present time it is not uncommon for the quack, the herb doctor, and the patent medicine man, who may be regarded as the modern representatives of the old Babylonian exorcisers, to be appealed to by patients in moments of despair, when rational remedies do not seem capable of affording relief.

Diseases mentioned in the Texts.

On the basis of the examples furnished we will be prepared to find a large number of diseases introduced into the medical texts, but, what is more, we also find differentiations between various aspects of a disease having its seat in some particular part of the body. Despite the fact that only a portion of the material in the royal library has up to the present been published, the number of diseases of which we have descriptions is considerable. An enumeration, which does not aim at completeness, shows us colds, indigestion, vomiting, diarrhœa, cramps, rheumatism of the joints, neuralgia, hæmorrhages, eye troubles, heart diseases, bilious attacks, and various stages of jaundice. The diagnosis in many cases is quite remarkably detailed, and reflects considerable care in observing symptoms. A case of indigestion, accompanied by vomiting, is described as follows: "If a man has a pain in his stomach and cannot retain food, which comes back through the mouth, and he has piercing pains in his bowels (?), and he is inflated and there is wind rumbling in his anus, and diarrhœa has set in, take to cure him," and so forth, and so forth. Naturally a condition of this kind may not only be due to various causes, but may be the accompaniment of various disorders. The medicine of Babylonia-Assyria reaches its limit in the description of the symptoms, but, on the other hand, this lack of differentiation in the diagnosis is compensated for by the large number of remedies proposed, which it is fair to presume reflect the experience spread over long periods which taught the physicians to be prepared for various causes leading to the same or to similar manifestations. Swelling, or distension of the stomach, with cramps and an inclination to vomit, is described as follows: "If a man's stomach is distended and at the same time the muscles seem contracted, and he is inclined to vomit, take," and so forth. A sour stomach, with rumblings and vomiting, is described as "If a man has expectoration and his stomach is swollen and emits cries" (the cry of the demon is again meant), "brings back food and drink, take," and so forth. More briefly we find the case, "If a man's stomach is full of acid."

The diagnosis of a more complicated form of stomach trouble involving the chest and liver reads, "If a man's chest hurts him, the stool is like urine" (that is, a very thin, watery stool), "his throat hurts him in speaking, he vomits—all his insides are affected, take"—and so forth. Still more detailed is the description of a generally disordered system, accompanied by fever. "If a man, without eating anything, is inclined to vomit" (that is, he is nauseated), "has much phlegm, the saliva that flows from his mouth is bitter" (that is, acidity in the stomach), "his face glows, his stomach is swollen, his body, his nose, and his arms on a cold day feel hot, food and drink cause pain, he drinks a great deal of water, he vomits, wind rumbles in his anus, the muscles of his body ache and seem weak, the fleshy parts are painful, whatever he eats does not agree with him, take"—and so forth.

Affections of the Liver.

Liver trouble, so common among men and animals in southern climates, naturally plays a prominent part in the general texts. The general term for an affection of the liver is "gall sickness" and the chief aim of the physician appears in such cases to have been to secure an opening of the bowels, so as to relieve the system of defectively assimilated food. An unusually large number of remedies, however, are set forth, pointing, as I venture to think, again to the recognition of many varieties of gall troubles, even though this does not come into view in the diagnosis.

Jaundice itself bears the name *amurrikanu*, which is the exact equivalent of our modern term, and is also the name which occurs in the Talmud (*yerakon*). We find in the medical texts a number of descriptions indicative of various stages in jaundice. "If a man is affected with yellowness of the eye and the disease spreads into his eye causing a flow of tears ..... his abdomen is swollen, he gives back food and drink, that man is affected all over by the sickness and will die." No medicinal treatment is prescribed in this case nor in the following: "If a man has yellowness of the eye, his head, his face, and all his body is affected to the root of his tongue, which is thickly coated, he will die." A simple definition of jaundice is added as a means of recognising the disease: "If a man's body is yellow, his face yellow, his flesh is progressively shrinking, that is *amurrikanu*." Another designation of the disease or a form of jaundice is *akhkhazu*, a term which is personified as the demon of a specific disease. The prescription reads: "When a man's body is yellow, his face is yellow and black, the root of his tongue black—that is *akhkhazu*." The dark colour at the back of the tongue was apparently looked upon as an important symptom of an advanced stage of the disease, though I have been unable to satisfy myself that this symptom is characteristic. *Akhkhazu* in an advanced stage is set down as hopeless. "When a man has *akhkhazu* his head, his face, his whole body, and even the root of his tongue is black. The physician should not treat him [literally, should not bring his hand to him], that man will die, he cannot recover."

Diseases of the Eye.

Coming to eye diseases which were so common at all times in the Orient, as they still are at the present time, we find a number of incidental references in connexion with headaches and fevers. No doubt among

unpublished fragments some will be found dealing specifically with eye troubles. "If the right side of a man's forehead is affected and the tears of his right eye are involved the tear sac is choked up, take bits of powdered turnip seed mixed together, pour cassia juice upon it, apply to the forehead, and he will recover. If the left side of a man's forehead is affected and the tears of his left eye are involved, pour *kitne* and *haldappanu*, add heated wine, apply to his head, and he will recover. If both sides of his forehead are affected and the tears of both eyes are involved take *kitne* and *haldappanu*, cassia, powdered turnip seed, mixed together with some kind of grain in a mortar, add cassia juice, bind the liniment or poultice to both sides of the forehead, and he will recover."

A distinct case of an injury to the eye with a detailed account of rapid progress is referred to in a letter of a physician, Arad-Nana, to Ashurbanapal, found in the Archive section of the royal library. The patient is a little son of the king, about whose condition the father seems much worried. The nature of the injury is not disclosed, but indications point to a wound above or below the eye which has been discharging pus.

Arad-Nana to the King my Lord.

Thy servant Arad-Nana hearty greetings to my King and Lord. May Ninib and Gula (the god of healing and his consort always invoked in the introductory phrase of medical-letters) grant happiness and health to the King my Lord.

Greetings to the little chap whose eye causes him trouble. I put a bandage on his face. Yesterday towards evening I took off the bandage that had been applied, removing also the dressing below, and there was blood on the dressing as much as the point of the little finger. Whichever one of thy gods has done this his command has surely been heeded.

Hearty greetings. Let the King my Lord rest assured in seven or eight days he will be well.

Hardly any comment is needed to this very explicit letter. The physician has placed a dressing on the eye containing, no doubt, some ointment, and he has fastened the dressing by means of a bandage around the face of the patient. He reports that bandage and dressing were removed to observe the healing process; that he found the wound almost healed. Modestly, or shall we say in accordance with current beliefs, he ascribes the unexpectedly rapid cure to the intervention of some god, and confidently predicts a complete recovery within a week. This is only one of many letters of physicians found in an extensive collection of official reports to the kings, and since through such reports we enter, as it were, into the physician's workshop and can observe him in his relations to his patients, I venture to place a few more before you and which will also lead us to the next point to be considered—the methods of treatment.

Some Medical Correspondence.

Physicians in Babylonia and Assyria do not always agree in their diagnosis and treatment. There is a very human touch in the criticism passed by Arad-Nana in another letter upon a wrong treatment apparently prescribed by a colleague. It is again the king's son who is suffering from hæmorrhages of the nose. Arad-Nana has apparently been called into consultation to ascertain why the bleeding does not stop. He reports as follows:—

To the King my Lord.

Thy servant Arad-Nana hearty greetings to the King my Lord. May Ninib and Gula grant the King my Lord happiness and health.

Hearty greetings to the King's son. The treatment which we prescribe for him is to be given every two-thirds of a double hour during the day (that is every 75 minutes). ..... In regard to the bleeding about which the Rab-Mugi (a high official) has reported to me that yesterday towards evening there was much bleeding, the dressings are not properly applied, they stop up the nostrils but at the same time the blood flows into the mouth. Let the nose be plugged up to the back so that air will be held off and the bleeding will cease. If it pleases the King I will come to look at it to-morrow. Meanwhile may I hear good news.

Evidently an attempt was made to stop the bleeding by merely plugging the alæ, the result of which was that the blood flowed backwards and came out through the mouth instead. As the spot from which the bleeding came was not covered Arad-Nana's advice is to plug up the nose completely.

My last example of this medical correspondence, which throws such a valuable light upon the standing of the physician at the Assyrian court, strikes a familiar note—one that will arouse your sympathy for your colleague of 2600 years ago. The king is suffering from an attack of rheumatism which seems to have been very persistent and refused to yield to treatment. Naturally the blame is put on the physician, our same Arad-Nana, and curiously enough the latter confesses that he had not understood the nature of the trouble, but that he feels certain of getting at the root of it. Here is what he writes:—

The King my Lord continues to declare "the state of this sickness of mine thou dost not recognise, thou dost not bring about a cure." Now I confess that hitherto I did not understand this rheumatism (literally, sickness of the muscles), but now I seal this letter to send it to the King my Lord. Let it be read to the King my Lord and properly understood. When it reaches the King my Lord let a physician ..... carry out the accompanying directions. Let the King apply this lotion (evidently sent with this letter) and soon this fever will leave the King my Lord. A second and a third time it should be applied to the King my Lord. The King must see to this. If it please the King let it be done to-morrow morning. This disease is in the blood. ..... With the ointment which I will send the King let the King be rubbed at the appointed time.

Let me conclude this portion of my subject by reading to you the symptoms of a disease in one of the medical texts so perfectly described as to require no further comments except to note a total absence of a sense of humour on the part of the compilers—the diagnosis of a "drunk" with the same seriousness as a case of jaundice. Sandwiched in between a description of bowel and chest troubles we read: "If a man has taken strong wine and his head is affected and he forgets his words and his speech becomes confused, his mind wanders and his eyes have a set expression, to cure him take shi-shi and so forth [11 drugs which are enumerated] to be compounded with oil and wine before the approach of *Gula* [that is, in the evening] and in the morning before sunrise and before anyone has kissed him let him take it and he will recover." It is almost humiliating to be obliged to confess that of the 11 drugs introduced in this prescription, despite the fact that six are a very common occurrence, we cannot with certainty identify more than two of them.

The Medicinal Remedies Employed.

This brings me to the next point to be briefly considered—medicinal remedies. There are considerably over a hundred drugs according to the medical texts and lists so far published. That the number in use, however, was much larger is shown by long lists of drugs found in the text-book division of the royal library, and which furnish, therefore, a most valuable supplementary source for the study of Babylonian and Assyrian medicine. These lists, of which we now have a large number at our disposal, consist of enumerations of plants, herbs, woods, thorns, roots and juices, and stones, with explanatory comments attached, indicating at times the phonetic reading of the signs, at times the class of substance to which the names belong or the genus of which they are a species. Other explanations attached to the lists indicate the use to which the drugs are to be applied and with what they are to be compounded. From this enumeration it follows that the lists were drawn up by the priests as aids to the study of medicine to be used in the Temple schools for the training of those who were to take their place in the community as "healers." The number of drugs is thus increased to the volume of an extensive pharmacopœia, comparing favourably in extent with modern compilations; over 300 substances are mentioned. The largest share is taken by plants, and among those that may with greater or less certainty be identified are mint, rape, or colewort, cummin, caraway, cassia, onions, leek, and cynoglosson, which, curiously enough, bears a name that is an exact equivalent of the Greek term *lishan kalbi* (dog's tongue), grain, wheat, and a large variety of reeds and thorny plants. Indeed, so predominating is the use of plants—the seeds, the juices, and the leaves being utilised—that the sign for plant which is to be read *shammu* becomes the general determinative placed before all substances used as drugs in these long lists. Quite irrespective whether the drug is a wood, a shrub, or a vegetable, it is introduced by the sign *shammu*, which thus becomes the general term for drug, and passes over in this sense into the Arabic, Syriac, Aramaic, and Hebrew—no doubt under the direct influence of Babylonian and Assyrian medicine. Within the plants distinctions are made between garden growths and wild herbs. Next to plants we have a large number of trees and shrubs, the roots, twigs, bark, sap, and seeds of which were used. Among those which may be identified are the cedar, the cypress—though there is also a cypress plant—the tamarisk, the myrtle, the willow, and the olive. Thirdly, we have many mineral substances, including various alkalies and salts; and, lastly, many stones which were crushed and used as ingredients in concoctions,

and more particularly in ointments and salves. Among salts it is perhaps of special interest to note the occurrence of a salt *amanu*, which seems to be the source of our own ammoniac. It is a fair inference that the use of stones as amulets was a factor in their introduction into medicinal compounds, for the stones mentioned include those to which a special significance as protection against demons was ascribed. These stones are sometimes enumerated among lists of drugs, but in such cases the sign for *shammu* is usually replaced by the sign for stone, to be read *na* in Sumerian and *abnu* in Babylonian. A prolonged study of the *shammu* and *abnu* lists has convinced me that the Babylonians intended to indicate by the signs for these two terms the broad distinction corresponding to organic and inorganic substances. If this view should turn out to be correct it would lead us in our further attempts to identify the terms introduced in the long lists of stones beyond the purely mineral kingdoms, just as the plant list extends beyond the scope of the vegetable kingdom because of the generic use of the sign for plant to designate any kind of a drug. The lists also show us the extent to which drugs were imported from other countries. For example, among the thorns there are mentioned three varieties of *dadanu*, one as growing in *Subari* (an old name for Assyria), a second in *Ainakhkhi* (which is the Babylonian form of Canaan), and a third in *Melukhkha* (which designates a section of the peninsula of Sinai).

Similarly we have lists of salts, and again a series of drugs grouped together as varieties of *ninu*, which we can fortunately identify as mint. Others again are grouped together as growing in fields or as varieties of cynoglosson. Of special interest are lists of drugs with indications of the diseases for which they are to be used, and of the manner in which they are to be employed as liniments, or to be taken in wine, to be taken fasting, mixed with honey, oil, and strong drink, or in water or milk. A series of remedies are given in one of these lists for bites of a dog or a snake, or the sting of a scorpion, or a blow of some kind. Some of the remedies thus indicated are to be applied to the bitten spot, several are to be made into an ointment and placed around the neck, or to be taken in wine, or wine mixed with oil. In one case it is specified that the oil is to be heated; in another that the leaves of a plant are to be applied to the face of the sick person.

We have a long list of drugs to be used in the case of eye diseases, presumably as washes and ointments. Among these the root and seed of cynoglosson occur. Another list gives the names of a series of drugs to be used for diseases of the mouth, which include inflamed gums, swollen cheeks, and ulcers. Lists of this kind are usually arranged in three columns, the first furnishing the name of the drug, the second that of the disease for which it is to be used, and the third how it is to be used. Thus the drug "male pestilence wood" is a drug for sickness of the mouth to be placed on the mouth. Several plants, including turnip seeds, are enumerated as remedies for a swollen cheek. It is quite likely that these fragments belong to a series in which in succession the drugs for all diseases were enumerated, with indications for their use. To this series would then belong another tablet, of which only a portion has been preserved, setting forth drugs for diseases of the anus which are to be mixed with oil or fat or with sweetened wine, and to be applied to the anus, though in one case it is specified that the leaves of the drug are to be taken in wine. Several portions of this series would be represented by fragments dealing with diseases of the heart, of the head, and throat, with such interesting specifications as pain of the throat, cold of the throat, inflammation of the throat, swelling of the throat, heart spasms, enlargement of the heart, heartburn affecting the throat, and so forth. In the same way we find remedies for diseases of the nose, for miscarriages, for sterility, and, if my interpretation of a passage in this list is correct, for abortions.

Lastly, before leaving the subject, let me call your attention to specimens of prescriptions in these aids to the study of medicine, forming no doubt part of an extensive dispensatory that may have covered a large number of tablets and which gave in some systematic sequence prescriptions for various diseases that were more fully treated in the medical handbooks. The form of the prescription is very simple, an enumeration of the drugs with the indication of the disease. Thus we have a prescription of eight various drugs for heart disease; another of five drugs to be compounded for *akhkhazu*. Again, six drugs for jaundice. In comparing the substances mentioned for the two latter diseases it is of importance to note that they actually occur among the compounds mentioned in the medical texts.

The Determination of the Drugs.

It will have become apparent to you by this time that the chief problem besetting us at present in the study of Babylonian and Assyrian medicine is the determination of the hundreds of drugs that are found in the list and in the medical texts proper. The task is, indeed, a formidable one, because the names are generally written in ideographs—that is, with one or two signs representing the word. The ideographs themselves are either fanciful, as dog's tongue, fox wine, or vaguely descriptive, as "white" or "life" plant, "pestilence," and the like. It is only when the names are written in the lists or in the texts phonetically—i.e., spelt out by syllables—that we have a definite point of departure. At times the names reveal the character of the plant, but in most cases it is only if we can find a corresponding term in one of the languages cognate to Babylonian, such as Hebrew, Arabic, Syriac, and Ethiopic, that we can solve the problem involved. Now, fortunately, we have long lists of medicinal herbs, plants, woods, and roots in the medical literature of the Arabs. Similarly, the Bible furnishes us with the native names for the most common trees and plants. Supplementary to the Bible we have the great compilation of the Rabbis of Babylonia and Palestine, known as the Talmud, and which reveals, incidental to discussions on questions of ritual, an extensive medical terminology in Aramaic. Thirdly, we have medical compilations in Syriac literature, of which a most important and unusually comprehensive specimen has just been published by Mr. Budge, of the British Museum. Though Syriac as well as Arabic medicine and in part the medicine of the Talmud is based on Greek models and to a large extent merely an adaptation of the great medical treatises of Hippocrates and Galen and their followers, still a considerable amount of earlier native medicine, both by the Arabs and the Syrians, as well as by the Jews, is of the Talmudic age. We are, I think, quite safe in assuming that beneath the still unidentified hundreds of drugs in Babylonian and Assyrian medical texts and signed lists there lie concealed to a very large extent the same substances that have been fortunately identified in Egyptian texts. We should, therefore, expect to find aloes, acanthus, crocus, mastic, nasturtium, saffron, mandragora, pomegranate, and probably also absinth and opium.

The Nature of the Treatment.

Medical treatment among the Babylonians and Assyrians consisted, as we have seen, largely in the administering of drugs compounded of a varying number of ingredients and tested substances of therapeutic value. Drugs, drugs everywhere given in wine, or water, or milk, or oil, or in several of these substances. If this were all, our estimate of the medicine of Babylonia and Assyria would have to be summed up in the verdict that it had not passed beyond the range of treatment of disease purely on the basis of popular experience of the medicinal value of certain plants, herbs, roots, juices, oils, salts, alkalies, and woods. We have, however, more than sufficient evidence in the medical texts that the healers of Babylonia, as well as their Assyrian colleagues, had advanced to the recognition of other forms of treatment. Let me, in conclusion, set before you some methods revealed in these medical texts. You may recall that in extracts from texts dealing with stomach troubles we find such directions as to place the patient on his knees so as to relieve the tension of the muscles of the stomach; or to place the head low and the feet high so as to bring about a more even circulation of the blood. Such methods betray more than merely popular observation or experience and rest upon some study of the reasons for the phenomena manifested in disease. To the same level belongs the introduction of the enema as a means of relieving the patient, and which has generally been supposed to be the discovery of the Egyptian physicians. We find the enema given both in a warm and in a cold form, and the frequency of such ingredients as oil and honey clearly shows the aim of bringing about the soothing of the inflamed and irritated muscles as well as of the swollen fleshy portions. That the same mixture

is ordered to be taken both through the mouth and to be introduced into the anus may strike us as perhaps naïve, but the logic of the treatment is irreproachable. The aim of the enema was to reach portions that could not be attacked through the mouth. If the remedy was a good one it ought to work equally well, no matter in what way it was brought into the body. On the other hand, I am inclined to believe that the frequent injunction to sprinkle the patient with a mixture given as an enema is a reversal to primitive methods with a view of exerting an influence on the demon rather than on the patient. In other words, the sprinkling is a ceremony of the same order as the sprinkling of the blood on the altar or on the individual as prescribed in some of the codes of the Old Testament.

Of a different character is the direction to rub the stomach with the mixture or to pour it on the anus, or both. A case of this kind is set forth in the following language: "If a man eats and drinks to his fill and then his stomach cuts him (that is he has cramps) and his insides are affected and swell up and he becomes sick and he gets colic, to cure him take cedar bark, shurmon bark, sweet reed (something like sugar cane), *balluku* herb, myrtle, *haldappanu*, chop up these five plants, add wine, heat the mixture, pour it off, add honey and refine; you will let it cool, rub it on his stomach and pour it on his anus." Nothing could be clearer, and whatever the modern verdict might be with regard to the efficacy of such treatment it will be admitted that the preparation and use of this liniment, for such it was, rest upon a rational basis. The ingredients, especially the oil and the honey, were expected to act as emollients to relieve the contracted muscles and to reduce the inflammation. I have not been able to find any definite reference to the enema as a means of bringing about a definite opening of the bowels, though experience must have shown this to be one of the results. It was applied so far as the texts go for its soothing and healing effect, indicated by the general use of oil, which is so common as to warrant us in designating the oil treatment as one of the favourite remedies in Babylonian and Assyrian medicine for all stomach troubles.

I have already had occasion to refer to the use of massage as an aid towards relieving pain in the stomach, and in passing we may note the frequent reference to the use of salts and of alkalies and of various other drugs both to aid in furnishing the digestive juices and to bring about an opening of the bowels. A typical instance is put briefly: "When a man's liver is affected mix cassia in water, let him drink it and he will have a passage." Varying directions to effect the same end are added: (1) a large quantity of sweetened wine; (2) herbs in water; (3) salt to be taken either in water or wine; (4) chopped onions taken in water; (5) *nukkurtu* plant and onions mixed together and taken in wine.

Poultices, hot and cold applications, ointments and salves to be applied to various parts of the body are a further proof that the physicians of Babylonia and Assyria passed beyond the stage when medical treatment was limited to taking drugs inwardly, and that they must have developed at least some theory as to the reason for the relief to be expected through drugs externally applied. There are many instances of directions to mix drugs into a paste or a salve to be smeared on a cloth or a bit of leather and to be applied to some part of the body. A typical case of a head compress reads: "If a man has a headache and his vision is clouded take one-third of a measure of a kind of flour powder and crush, knead with cassia juice, wrap it round his head, attach it (with a bandage), and do not remove for three days."

A more elaborate poultice for headache consists of the juice of seven plants mixed with wine, kneaded with corn-flour into a paste to be spread on the liver, wrapped around the head, attached, and to be kept there for several days. The directions are specific that the poultices are to be placed around the head and to be fastened with a bandage. In the case of stomach troubles it would appear that the poultice was simply placed on the affected portion, though sometimes it was also spread on cloth and attached to the body.

Diet and Other Matters.

Lastly, and as a third indication of the more scientific aspects of Babylonian and Assyrian medicine, let me give you a few illustrations of the diet prescribed for the sick in cases of indigestion in which the stomach refuses to retain food. The patient is to abstain from onions and leeks and garbi (perhaps another form of onion). This precaution is frequently prescribed and is generally combined with the direction to wash in pure water or with the juice of some wood that unfortunately cannot be identified. Physicians do not, however, always agree, and so we come across a case of vomiting spells in which just the contrary is recommended, that for three days the patient should not wash, and it is added he will recover.

A certain diet for stomach trouble appears to have consisted of two substances, one of which unfortunately cannot be determined owing to the defective condition of the tablet at this point, and the other is literally translated "the sediment of butter." Can butter-milk be meant? Another diet prescribed for stomach troubles consists of dates to be eaten in pig's fat or in oil. Again, in illustration of varying opinions among the physicians we find a diet of green onions and chicory ordered to be beaten up in water. In quite a number of cases quiet and rest are prescribed, the terms reading: "Let him rest quietly," or again, "Let him lie down and keep quiet"; and you will have noticed the frequency with which it is specified that medicinal potions are to be taken "without food"—that is, on an empty stomach, evidently with a view of giving the medicine a chance to have its full effect.

The Influence of Babylonian and Assyrian Medicine.

Here I must rest my case, and I feel that I have kept you as it is beyond normal endurance. I should have liked very much to touch upon the important question of the influence exercised by Babylonia and Assyria upon the ancient world. Briefly, let me say that the more direct traces of this influence are to be seen in the medicine of the Jews as revealed in the many passages of the Talmud in which medical treatment is discussed. The Jews of Babylonia and Palestine naturally came under the direct influence of Babylonian and Assyrian civilisation during the centuries (second B.C. to about the sixth A.D.) represented by the Talmudic medical compilations, just as we find such striking proofs of this influence in the pages of the Old Testament covering the earlier periods—in the popular traditions, in the customs, the laws, and the literature of the ancient Hebrews. Despite the introduction of the more scientific methods of Greek medicine, the Jews clung to the Babylonian and Assyrian conception of disease as due to demoniac possession. We find incantations and magic rites in the Talmud of precisely the same character as in the Babylonian and Assyrian literature, including even traces of what a German physician of the eighteenth century aptly called a Dreckapotheke. Such specific parallels as the frequent directions to take medicinal potions in wine can hardly be mere coincidence, and I have no hesitation in saying that the medicine of the Talmud reflects at almost every turn Babylonian and Assyrian influence. As for Arabic medicine, it would be surprising if we should not encounter some traces at least of methods and practices that were developed in the Euphrates valley, though of course the dominant factor in Arabic medicine is Greek science. The same is the case in Syriac medical compilations which are largely based on Arabic models and follow the methods of Greek physicians. The recent publication by Mr. Budge of a most elaborate medical treatise of Syria, to which I have referred, places students in a particularly favourable position for studying the relationship in this instance to Babylonian and Assyrian medicine. Let me at least point out that attached to the main treatise, which proceeds methodically to treat one disease after the other and to discuss the symptoms in the manner of Greek medicine, the compiler has added a long section on astrology in which, as in Babylonian and Assyrian Omen collections, are included prognostications as to the outcome and duration of the disease according to the day of the month on which an individual is taken sick. It is hard to resist the conclusion that we have here a distinct trace of Babylonian and Assyrian divination practices, just as we may recognise the direct influence of Babylonian and Assyrian medicine in another large section added by the compiler in which he has put together a most formidable array of remedies for all kinds of diseases and which he designates as native prescriptions. These remedies, furnished as supplementary to those embodied in the main part of the work, are clearly survivals of the earlier stage of medicine

prior to the introduction of Greek methods. We find as a matter of fact mixtures among these native prescriptions that remind us of those in the medical texts of Babylonia and Assyria. We come across the frequent direction to take the medicine in wine (though beer, as in Egyptian works on medicine, is also included). We find a considerable number of ingredients forming part of a Dreckapotheke, which suggests the survival of the endeavour to cure the patient by disgusting the demon, and we also have directions of a distinctly magic character. As a general point of resemblance between Syrian medicine and that of Babylonia and Assyria justifying us in seeking for further influences of the latter, I may instance the use of the Syriac word for heart, *libba*, precisely as the Babylonian *libbu* in the medical texts for the belly.

Closing Remarks.

And now it only remains for me to thank you for the patience with which you have followed this endeavour to sketch in outline the course taken by Babylonian and Assyrian medicine and to set forth some of its salient features. Considering that, as I have tried to emphasise with special force, medicine remained attached down to the latest days of Babylonian and Assyrian history to the demon theory of disease, that incantation rites continued to be regarded as an important accessory to medical treatment, and that divination practices further held in check the free development of medical science, it is, I think, a rather notable achievement that the healers of Babylonia and Assyria should have passed across the barren wastes of incantation rites and divination practices, and reached at least up to the borders of the promised land of genuine medical science. Indeed, we may perhaps go further, and on the basis of the medical texts and the various aids to the study of medicine in prescribing poultices, dressings, massage, diet and rest, assert that Babylonian and Assyrian medicine through some of its anonymous representatives, passed beyond the frontier and took possession of some of the outposts. The further steps, however, in the invasion of the territory of medical science were left to others—to the Egyptians at an early age, and more particularly, of course, to the great Greek physicians of the fifth and fourth centuries before this era.

OPENING OF THE MEDICAL SCHOOLS.

University College Hospital.—At this school there was no inaugural address, but on Oct. 1st when the session opened Dr. G. F. Blacker, the dean of the school, read an interesting report on the work of the past year. During the session, he said, 242 students attended the school, of whom 155 were new students. In response to an appeal issued to former students of University College and University College Hospital, a substantial sum had been collected to institute a memorial to the late Lord Lister, and a joint committee of University College and of University College Hospital Medical School was at present sitting to decide what form the memorial in the college and in the hospital should take. Sir John Rose Bradford, K.C.M.G., F.R.S., had been appointed a member of the Departmental Committee of the Board of Education appointed to inquire and report as to the steps by which effect should be given to the scheme of the Report of the Royal Commission on University Education in London. It was interesting to note that the recently appointed Advisory Council for Medical Research, in connexion with National Health Insurance, contained among its number seven past students of the hospital—viz., Sir Rickman Godlee, Sir A. Whitelegge, Sir Alfred Pearce Gould, Dr. Sidney Martin, Dr. Sidney Coupland, Dr. H. M. Richards, and Dr. T. C. Stevenson. In the newly instituted department for mental diseases Dr. Bernard Hart had been appointed physician in charge, and in charge of the inoculation department, which had been opened owing to the generosity of Sir Harry Waechter, Bart., Dr. F. H. Thiele had been appointed. Dr. Blacker concluded his report with a reference to the success which had attended the meeting of the medical society in connexion with the school.

Charing Cross Hospital.—The annual dinner of the past and present students was held at Gatti's Restaurant on Oct. 1st, Mr. H. F. Waterhouse being in the chair. About 110 were present, and among the chief guests were the Hon. H. Fletcher-Moulton; Dr. Burrows, Principal of King's College; Mr. Robin Duff, chairman of the hospital; and Dr. Gordon Wilson. In proposing the toast "The Prosperity of Charing Cross Hospital and Medical School," the chairman said that they had passed through a time of great change and developments and the result was in all ways satisfactory and a matter for which they might legitimately congratulate themselves. The record of the school, both in academic distinctions and on the athletic side, was one of which all might feel proud. Two years ago Dr. William Hunter had been appointed dean at a time when changes were contemplated which were bound to affect the school for good or ill, and since that time there had been uninterrupted successes. The school was never in a more flourishing condition, and they could not too fully appreciate the services of Dr. Hunter, who grudged neither his time nor his health in maintaining its welfare. As regards the hospital, an event was foreshadowed which all would regret. He referred to the approaching retirement of Dr. F. W. Mott. For his part it would be unthinkable for Charing Cross Hospital to be deprived of the services of so distinguished a man, and if the committee could help it there would be no retirement. Dr. Hunter, in the course of his reply, expressed his appreciation of the enthusiasm and loyal support of all his colleagues of the school during the important developments and changes which had been effected in the past two years. It had been a source of peculiar gratification to the hospital and its school to have had the presence of the Lady Wantage—one of the oldest friends of the hospital—at their prize distribution that day, and to have heard her encouraging appreciation of the changes that had been effected. The Hon. H. Fletcher-Moulton, replying to the toast of "The Guests," proposed by Dr. T. W. Eden, said that reference had been made to his father in connexion with Lord Fletcher-Moulton's services to the medical profession during the sitting of the Royal Commission on Vivisection. He was sure that there was nothing of which his father was more proud than of having been the means of showing a number of persons that the doctors were actuated in their scientific researches by feelings alike of charity and of the good of humanity in general. The health of the chairman was proposed by Dr. J. Galloway in a speech full of historical learning and research, in which he drew a parallel between the position occupied by the ancient hostel of Charing and the present hospital. During the course of a most enjoyable evening Dr. Mott consented, amidst great applause, to withdraw his proposed resignation from the hospital staff.

St. Mary's Hospital.—The annual dinner was held at Prince's Restaurant on Oct. 2nd and was largely attended. The guests included Sir John Prescott Hewett, G.C.S.I., Sir Arthur Conan Doyle, and the Mayor of Paddington. Mr. Horace Sworder, of Luton, was in the chair, and, after the usual loyal toasts, proposed "St. Mary's Hospital and Medical School" in felicitous terms. In reply, Mr. Austen Leigh, chairman of the hospital board, referred to the events of the year, notably the rebuilding of the casualty department, the complete renovation of the drainage system of the hospital, and the proposed installation of a new mechanical lift for the use of operation cases. He commented on the increased importance of St. Mary's which would result from the migration to the suburbs of St. George's and so many other similar institutions. Sir John Broadbent, Bart., dean of the medical school, enumerated the more important successes of the year—the award of the Hungary Prize to Sir Almroth Wright, of the Nettleship Prize to Mr. George Coats, and of the Jacksonian Prize to Mr. F. W. Goyder. By obtaining at the M.D. examination of the London University the Gold Medal in Medicine, Dr. C. M. Wilson had brought to St. Mary's the eighth gold medal in nine years. The school was in a strong position, possessing among other assets, Dr. Ridewood and Dr. Senter, the only university readers in the subjects of biology and chemistry. The health of "The Visitors" was proposed by Dr. E. Graham Little, and was responded to in a witty speech by Sir Arthur Conan Doyle and by Mr. H. G. Handover, Mayor of Paddington, who paid a tribute to the invaluable services of the hospital in the rapidly increasing district which it served. Dr. Sidney Phillips, senior physician to the hospital, then proposed the health of the chairman, to which Mr. Sworder briefly replied.

Leeds School of Medicine.—The winter session at the School of Medicine of the University of Leeds was opened on Oct. 1st, when Professor C. S. Sherrington distributed the prizes and delivered an address on "The School of Medicine and the Provincial University." What advantage, Professor Sherrington asked, does the student in the provincial school obtain from enlistment in the Provincial University? The student himself, he said, would probably reply by instancing his opportunity to be examined not in alien laboratories and wards, but in those in which he had been taught and by teachers who had taught him. Yet, remembering the strictly scientific character of modern medicine, it was obvious that another advantage obtainable by the school from association with the University would be the provision of scientific laboratories on a scale of completeness which the isolated school could not furnish. Nowadays a career in medicine demanded knowledge for which the basis lay in the prefatory sciences of biology, chemistry, and physics. Further, the student had to possess first-hand acquaintance with the sciences specially attached to medicine—namely, anatomy, physiology, pathology and pharmacology. Each of these studies was costly, alike in money, time, and equipment. If the full cost of such studies had to be obtained from the student, the educational authorities would fail in one of their duties to the community, because these studies would then become an exclusive privilege of the wealthy few. By incorporating with the local university, the school of medicine legitimately extended its means of appeal and sources of support on the whole field of the public spirit of the province. Another benefit to the student was a wider circle of full studentship thus afforded him. The university offered him a great benefit of intercourse and intimacy with students not only within but also outside his own particular training. As student life was a miniature of the outside world though a less monotone one, students should be urged to see that each one of them entered thoroughly into the student life of the university as a whole, and the spirit of fraternity should embrace all classes gathered within the house of *Alma Mater*.

University of Edinburgh.—In opening the combined class of clinical medicine of the University of Edinburgh in the Royal Infirmary on Oct. 7th, Professor Sir Thomas R. Fraser said that beyond the usual subject-matter of the opening lectures he had before him an additional topic of great and possibly epoch-marking importance. This was the inauguration of certain changes in the arrangements and conditions of clinical instruction in the Royal Infirmary, which after several years of discussion had at length culminated in a settlement and agreement. As this agreement very closely affected the students of medicine and had, indeed, been made mainly in their interest and for their advantage, Sir Thomas Fraser described its salient points. 1. An incorporation with the University has been effected of the whole of the ordinary physicians, assistant physicians, and tutors into one concrete body, without distinction, in essential points, between University professors and extramural teachers. 2. The ordinary physicians have become university officials with the title of senior lecturers in clinical medicine; the assistant physicians as lecturers; and the tutors as University tutors or assistants. All of these teachers, along with the professors of clinical medicine, have thus been fused into one concrete body, to work together for one common purpose, and without the semblance of being two different bodies, each desirous it may be of maintaining separate interests. It is no doubt the case that the last University Commission granted to all University students the right of attending the wards and the instruction of the ordinary physicians on exactly the same conditions as those of University professors, but so long as there existed a University group and a separate extramural group a distinction has inevitably been made, which may have the disadvantage of limiting the full use of the medical wards and of the valuable teaching power available in the infirmary. Under the new arrangements all may now act for one common purpose; and unnecessary duplications of arrangements, with consequent weakening of resources, may now largely be avoided. 3. The new arrangements also include the appointment as examiners for University degrees of every one of the ordinary physicians, in future to be designated senior lecturers in clinical medicine. It is also provided that a limitation should be made in the number of students attached to each professor and senior lecturer. 4. Frequently the assistant physicians have almost limited themselves in their infirmary work to the out-patient department and to acting as substitutes to the physicians during their temporary absence. In the new arrangements it is provided that, while retaining these functions, these officers, now to be designated University lecturers, shall take more part in clinical teaching than before, shall assist the professors and senior lecturers in ward teaching, and, if required, shall also give clinical lectures. They will assume the position of the *chefs de clinique* in France and Germany. 5. Instruction in the niceties of special clinical work, largely in its scientific aspects, is in future to be consigned to the charge of the clinical tutors in coöperation with the University lecturers, and for this purpose rooms under five medical pavilions have been furnished with suitable fittings and apparatus, the former by the liberality of the managers of the Royal Infirmary and the latter by the University. Having thus outlined the leading features of the new arrangements, Sir Thomas Fraser pointed out that they provided a large supply of teachers and an ample complement of clinical materials. It might almost be said that there was a plethora of teaching power. If injudiciously used it would, indeed, be hurtful; if judiciously used it would add greatly to existing facilities for instruction and be of much value to students. Great evil could result if students permitted themselves to contemplate the advisability of attaching themselves to the cliniques of most or all of these seven professors and senior lecturers. That would be a fatal error. The lecturer believed, on the other hand, that a strict limitation in the number of teachers attended by each student was most advisable, and that in the earliest infancy of development in the knowledge of clinical medicine it should be an understood axiom that for a period of five or six months the student remain under the pupilage of only one physician in charge of wards. The new arrangements have been extended into the infirmary department of pathology, which also has now become incorporated with the University. The pathologists and their assistants have become University officials, the accommodation for the teaching of morbid anatomy has been greatly extended, and the arrangements for the work and teaching in the department have come under the direction and supervision of the Faculty of Medicine and the University Court. Sir Thomas Fraser concluded: "I have thus briefly directed your attention to important new arrangements for education in clinical medicine. They relate only to such an education as will impart the elements of knowledge adequate to qualify a man fitly and usefully to enter on the practice of our profession, and even to appreciate and assimilate the further advances which are almost daily being made to the great advantage of mankind. These advances are mainly the fruits of modern science, partly originated by observation at the bedside of patients, but matured by the extension of clinical observation into the laboratories of chemistry, pathology, bacteriology, and pharmacology. It has become important that clinical teachers should be capable of adopting the methods and resources of the laboratory in their work as physicians and teachers. They will thereby become more efficient in treating disease and imparting knowledge to students, and also in directing and themselves conducting the investigations from which is derived the information now demanded in the diagnosis and treatment of each case of disease. So vast is now this acquired knowledge, so protracted the time required for this investigation, that the opinion is extending in this country that in each large educational hospital there should be at least one teacher of clinical medicine who, while retaining the ordinary functions of a hospital physician and engaging to a moderate extent in public professional work, should devote his chief time and energies and thoughts to his hospital work, almost as restrictively as has become necessary in such University chairs as those of physiology, or chemistry, or pathology, or bacteriology."

THE LISTON VICTORIA JUBILEE PRIZE.—At a meeting of the Royal College of Surgeons of Edinburgh, held on Oct. 15th, this prize of £100 was awarded to Mr. John David Malcolm, M.B. Edin., F.R.C.S. Edin., London, for his investigation into the causes of shock.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on Oct. 9th, Sir RICKMAN GODLEE, the President, being in the chair.

It was resolved that Dr. H. P. Keatinge, director of the Egyptian School of Medicine at Cairo, be asked to convey the thanks of the Council to the Egyptian Government for presenting to the College a valuable series of "corrosion preparations" made with great skill and originality by Professor B. Wahby, and recently exhibited in the Museum of the Seventeenth International Medical Congress.

The best thanks of the Council were given to the Director of the Department of Agriculture at Washington for presenting to the College a collection of plants and drawings made by Dr. Edwin E. Smith to illustrate tumour formation, which were also exhibited in the Museum of the Congress.

The best thanks of the Council were given to Sir Thomas Wrightson, Bart., for presenting to the College a Leitz projection apparatus and a serial section of the human labyrinth.

The thanks of the Council were given to the authorities of the Egypt Exploration Fund for their gift of 24 skulls discovered during excavations in Egypt last winter.

Mr. CHARTERS J. SYMONDS, on behalf of the Committee on the Annual Report of the Council, submitted a draft copy of the report to be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 20th. The report was approved and adopted.

Mr. G. H. Makins was appointed a member of the Committee of Management in the vacancy occasioned by the retirement of Sir Rickman Godlee.

ANNUAL REPORT OF THE COUNCIL.

The annual report of the Council of the Royal College of Surgeons of England, which is to be presented to the meeting of Fellows and Members on Nov. 20th next, has been published and contains a record of the work of the College in its various departments during the year ending August 1st, 1913. The resolutions which were passed at the last annual meeting dealing with the National Insurance Act and the question of the direct representation of Members on the Council of the College are recorded, together with the replies of the Council. They stated that they were glad to find that their action in connexion with the National Insurance Act had met with the approval and endorsement of the meeting. With regard to the question of the direct representation of Members, the Council expressed the opinion that, as their views on the subject were fully set out in their annual report of 1907, they did not think that any further statement from them was needed.

The Insurance Act.—In connexion with the Insurance Act the report states that meetings of the joint committee of the Royal Colleges of Physicians and Surgeons, the Society of Apothecaries, and the Medical Faculties of the Universities have been held, and resolutions have been passed. These resolutions relate to (*a*) the conditions set up by the Provisional Regulations of the Insurance Commissioners in October of last year; (*b*) matters concerning the professional conduct of medical practitioners; (*c*) the question of the Provisional Regulations being left largely in the hands of the Local Insurance Committees; and (*d*) the advisability of establishing tuberculosis centres in connexion with those hospitals to which medical schools are attached. The joint committee collected information regarding the working of the Act from members of the profession practising in various parts of the country with the view of memorialising the Government in the event of an Amending Bill being introduced. Owing chiefly to the late period of the session at which this measure was laid before Parliament last year it was thought no useful purpose would be served by presenting a memorial. In reference to the position under the Act of resident medical officers at hospitals (a point upon which the President, on behalf of the Council, had addressed a letter to the Commissioners), the following decision was given by the National Health Insurance Commissioners: "That resident medical officers at hospitals employed under the conditions referred to at the hearing in October, 1912, are not employed under a contract of service within the meaning of the National Insurance Act, and are accordingly not required to be insured thereunder, even if their rate of remuneration does not exceed in value £160 a year." With reference to a letter sent to the College early this year from the honorary secretary of the London Medical Committee, asking to be informed regarding "the attitude of the College towards such of its Fellows and Members as might become members of a registered trade union formed to advance the interests of the medical profession, and particularly as to whether the College would be likely to view their action adversely," the Council sent the following reply:—

> That, inasmuch as there is nothing in the charters and by-laws to prevent a Fellow or Member joining a registered trade union, the formation of such a union by members of the medical profession does not in itself appear to the Council to be a matter to which they can raise objections; and that the view which the Council might take of the conduct of any Fellows or Members in joining such a union, or taking part in its affairs, would depend on the objects with which it is formed and the methods it adopts to attain such objects.

The title of doctor.—An important item contained in the report is that mentioned under the heading "The Title of Doctor." It is here stated that the Royal College of Physicians have withdrawn the words in one of their by-laws forbidding their Licentiates to assume the title of "doctor" unless they held the degree of M.D. The Royal College of Physicians has thus adopted the same attitude in the matter as the College of Surgeons, which has never objected to its Members assuming the courtesy title of "Doctor."

Alterations in the regulations for the Fellowship.—During the period with which the report deals suggestions for alterations in the physiological part of the primary examination for the Fellowship have been submitted to the Council in a report from the board of examiners in anatomy and physiology for the Fellowship, and also in a memorial from teachers in physiology. These suggestions were referred for consideration to a large committee of the Council, and the recommendations of the committee have been approved and adopted. The clause in the regulations relating to the necessity of candidates attending "a course of practical physiology during not less than six months at a recognised medical school," has been altered to (*a*) a course of experimental physiology; (*b*) a course of chemical physiology; and (*c*) a course of histology at a recognised medical school. Other alterations are to the effect that two papers in physiology, each containing four questions, of which a candidate must answer only two, be set, and that two hours be allotted to each paper. The same arrangement is to be adopted for the written part of the examination in anatomy.—The Council have adopted the suggestion of the deans of the dental schools of London that candidates for the Licence in Dental Surgery of the College should be required to pass the Preliminary Science Examinations before commencing any part of the course of study and practice required for the Second Professional Examination. The alteration in the regulations will apply to all candidates who commenced their professional studies on or after Oct. 1st, 1913.

Alterations in the award of the Blane medals.—Alterations in the regulations for the award of the Sir Gilbert Blane medals have been made during the past year, and it is now provided "that one medal be awarded annually to the medical officer who obtains the highest aggregate marks at the examination for promotion to the rank of staff surgeon now held twice a year in connexion with the courses at the medical school of the Royal Naval College, Greenwich, the award to be subject to the approval of the Presidents of the Colleges of Physicians and Surgeons respectively and the Director-General of the Medical Department of the Navy." Previously two medals were conferred once in every two years on two medical officers of the navy "who in the time required shall have delivered to the proper office journals evincing the most distinguished proofs of skill, diligence, humanity, and learning in the exercise of their professional duties."

A centenarian Member.—The Council have sent their congratulations to Surgeon-Major Henry Benjamin Hinton, of Adelaide, South Australia, on attaining the age of 100 years. Surgeon-Major Hinton was born at Southsea on March 7th, 1813, and became a Member of the College in 1835. He served in India through the Mahratta and Sikh wars and during the Mutiny, and on retiring from the army lived at Launceston, Tasmania, and subsequently at

Melbourne, Victoria, before taking up his residence at Adelaide.

Finance.—The gross income of the College for the year amounts to £26,379, an increase of £539 on that of the previous year. The expenditure in respect of revenue for the year amounts to £22,261, and is £1508 less than in the previous year.

Museum and Library.—The report contains a full description of the progress made both in the museum and library of the College, and records the various donations and additions which have been made.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

A meeting of Fellows and Members will be held at the College in Lincoln's Inn Fields on Thursday, Nov. 20th, at 3 P.M., when the report from the Council will be laid before the meeting. Fellows and Members can obtain copies of the report on application to the secretary, and can have their names placed on the list of those to whom the report is sent annually. Motions to be brought forward at the meeting must be signed by the mover, or by the mover and other Fellows and Members, and must be received by the secretary not later than Nov. 10th.

ASYLUM REPORTS.

Royal Edinburgh Asylum, Morningside (Annual Report for the Year 1912).—At this asylum the average number resident during the year was 756. The total number of admissions was 222, and of the forms of insanity from which patients were suffering melancholia, as usual, was the most prevalent, and accounted for nearly a quarter of the admissions. Among the assigned exciting causes of insanity alcoholic excess still heads the list, but the proportion of cases of "alcoholic insanity" is less than usual. The discharged numbered 129, of whom 58 patients were recovered, the recovery rate being 26 per cent. of the total number of admissions. The total number of deaths was 62 giving a rate of 8·2 per cent. of the average number resident. Sixteen of the deaths were due to general paralysis and 16 were of persons over 70 years of age. There were only six deaths due to phthisis. Dr. George M. Robertson, the physician-superintendent, finds as a new experience that the proper treatment of his patients is hampered by political questions. During the last 18 months he has found on several occasions the friends of patients, as a result of what has appeared in the press on the subject, offering resistance to the necessary humane procedure of the artificial feeding of their relatives. He has even met those who are prepared to allow the patient to starve and probably die rather than be fed. It has been a source of perplexity and astonishment to learn that artificial feeding by means of a tube should be regarded as torture or dangerous. Dr. Robertson has performed the operation over 2000 times, and has never seen evil results in any of the cases. Patients have been fed in hospitals in this way for years at a time. A case of pellagra is quoted as having been admitted to the asylum, and appears to have been the only example of undoubted pellagra that had occurred in the country in the course of 45 years. On July 9th of this year the asylum celebrated the centenary of its opening.

The Retreat, York (Annual Report for the Year 1912).—At this hospital the total number of cases under treatment during the year was 239 certified patients and 31 voluntary boarders. The admissions numbered 57 certified patients and 26 voluntary boarders. One woman admitted was 90 years of age. Thirty-six cases were discharged, and of these 16 were recovered. One of the women discharged recovered had been on the books of the hospital for 12 years. She had suffered from repeated attacks of acute mental disturbance of a severe character and was looked upon as permanently unstable. Twelve patients died during the year, of whom nine were over 65 years of age. With reference to the treatment of incipient insanity, Dr. Bedford Pierce points out that although Bills to provide for the treatment of early undeveloped cases have several times been introduced, nothing has been done. At present there are few, if any, facilities for the proper treatment of either rich or poor until the patient is decidedly insane. Everyone who sees many of these cases deplores the fact that if effective treatment is to be adopted it must frequently be carried out in defiance of the law. It is obvious that all persons with recent, and perhaps temporary, mental disturbance should not be certified as insane, and yet it is illegal for any person to receive such a case into his house for payment. It is, therefore, urgently necessary to amend the law, so that such recent and undeveloped cases can be treated under proper conditions. For the poor the question is even more urgent than for the rich, as no treatment whatever, whether legal or illegal, is available for those unable to pay for early treatment. They are refused admission as voluntary boarders at our public asylums, they are not received at our general hospitals, and nothing can be done until they are ill enough to be taken by the relieving officer before a magistrate and certified as insane.

Asylum of the County Borough of West Ham (Annual Report for the Year 1912).—The total number under treatment at this asylum during the year was 1203, the average daily number on the registers being 927. The total number of cases admitted was 300. The increase in the number of admissions for 1912 was the largest for the last ten years. The proportion per 10,000 of the West Ham pauper insane has risen from 26·5 in 1901 by gradual increments to 37·88 in 1912. Forty of the admissions suffered from forms of mania and 74 from melancholia. Twenty-four were cases of dementia, 38 of general paralysis, and 21 of epilepsy. A large proportion of the direct admissions were, from the point of view of mental recovery, hopeless cases. Out of 279 direct admissions, 110 cases had a hereditary history of insanity, epilepsy, alcoholism, or other neuroses, giving a percentage of 39. These include 70 cases in which no information could be obtained, and many others with scanty and unreliable histories. Fifty-seven cases were discharged recovered, giving a percentage of 20·43 on the direct admissions. The deaths numbered 88, giving a percentage of 9·49 on the average number resident. General paralysis was the cause of death in 24 per cent. of the cases, and senile decay in 21·5 per cent. It appears that the asylum is still overcrowded, but plans for extensions to accommodate 140 males and 240 females have in principle been approved by the Commissioners in Lunacy.

Surrey County Lunatic Asylum at Netherne (Annual Report for the Year 1912).—The average number resident at this asylum during the year was 916, the total number of cases under care having been 1158. The total number of cases admitted during the year was 261, and of these 40 were suffering from congenital mental defect, 12 from epilepsy, 10 from general paralysis, 25 from senile dementia, and in 34 per cent. ultimate recovery could not be reasonably anticipated. The chief causes assigned were: hereditary predisposition, 13 per cent.; alcohol, 4·5 per cent.; worry and mental distress, 4·9 per cent.; and senile decay 12·2 per cent. The recoveries were 87 in number, being 46·2 per cent., calculated on the direct admissions. The deaths numbered 67, giving a rate on the average number resident of 7·32. According to the Commissioners' report the acute hospital is still used for the accommodation of male working patients, the female portion of it being unoccupied. The Commissioners hope that it will before long be devoted to the purpose for which it was provided—that is, for the reception of all new cases, which should be removed to the main building only when the prospect of early recovery has passed.

Staffordshire County Mental Hospital at Cheddleton (Annual Report for the Year 1912).—The total number of cases under treatment at this asylum during 1912 was 1254, the average daily number on the registers being 1034. The admissions numbered 223, and were 38 fewer than in 1911. Heredity appears as a cause in 114 cases, as against 169 cases in the previous year. There were 105 cases discharged, and of these 79 were recovered, the percentage of total recoveries on the direct admissions being 36·28. The deaths numbered 116, giving a percentage on the average daily number on the registers of 11·22. In quite a number of the post-mortem examinations from other causes of death, extensive healed tuberculosis, diagnosed in former years, was disclosed; and these cases, although advanced and extensive when discovered, had apparently been cured by open-air treatment. There was a large diminution in the number of dysentery patients, there having been 37 as against 79 in 1911.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8209 births and 4888 deaths were registered during the week ended Saturday, Oct. 11th. The annual rate of mortality in these towns, which had been 14·3, 14·4, and 13·6 per 1000 in the three preceding weeks rose to 14·3 per 1000 in the week under notice. During the thirteen weeks of last quarter the mean annual death-rate in these towns averaged 12·7, against a corresponding rate of 11·8 per 1000 in the Metropolis. Among the several towns the death-rate last week ranged from 2·2 in Southend-on-Sea, 3·6 in Ilford, 6·3 in Walthamstow, 6·4 in Reading and in Cambridge, and 6·8 in Edmonton, to 19·5 in Wigan and in West Hartlepool, 19·8 in Oldham, 20·2 in Bootle, 21·7 in Middlesbrough and in South Shields, and 22·0 in Bury.

The 4888 deaths from all causes were 237 above the number in the previous week, and included 925 which were referred to the principal epidemic diseases, against numbers steadily declining from 1242 to 866 in the four preceding weeks. Of these 925 deaths, 769 resulted from infantile diarrhœal diseases, 44 from diphtheria, 39 from whooping-cough, 26 from measles 24 from enteric fever, and 23 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 2·7, against 3·2 and 2·5 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had declined from 1104 to 730 in the four preceding weeks, increased to 769 last week; of this number 168 deaths occurred in London, 52 in Liverpool, 44 in Birmingham, 30 in Hull, 28 in West Ham, 27 in Manchester, 26 in Sheffield, and 18 in Preston. The deaths referred to diphtheria, which had been 40, 38, and 43 in the three preceding weeks, were 44 last week, and included 12 in London, 3 each in Birmingham, Liverpool, and Manchester, and 2 each in Portsmouth, Devonport, Stoke-on-Trent, and Leeds. The fatal cases of whooping-cough, which had been 44, 49, and 32 in the three preceding weeks, rose to 39 last week; 9 deaths were registered in London, 4 in Birmingham, 3 in Liverpool, 3 in Newcastle-on-Tyne, and 2 each in Stoke-on-Trent, Manchester, and Sheffield. The deaths attributed to measles, which had been 20, 31, and 28 in the three preceding weeks, further declined to 26 last week, and included 4 in Stoke-on-Trent, 3 in Stockport, and 2 each in West Bromwich, Oldham, and Barnsley. The deaths referred to enteric fever, which had increased from 10 to 19 in the four preceding weeks, further rose to 24 last week; this was the highest number of deaths recorded from this disease in any week of the current year, and included 4 in Manchester, 4 in Hull, 3 in London, and 2 in Portsmouth. The fatal cases of scarlet fever, which had been 18, 19, and 14 in the three preceding weeks, rose to 23 last week, of which 5 were recorded in Birmingham, 4 in Manchester, and 3 in London.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily increased from 2112 to 2817 in the five preceding weeks, had further risen to 3021 on Saturday last; 484 new cases were admitted during the week, against 473, 508, and 498 in the three preceding weeks. These hospitals also contained on Saturday last 1047 cases of diphtheria, 184 of whooping-cough, 63 of enteric fever, and 55 of measles, but not one of small-pox. The 1231 deaths from all causes in London were 139 in excess of the number in the previous week, and were equal to an annual death-rate of 14·2 per 1000. The deaths referred to diseases of the respiratory system, which had been 125, 134, and 124 in the three preceding weeks, rose to 176 last week, but were 106 below the number recorded in the corresponding week of last year.

Of the 4888 deaths from all causes in the 96 towns, 170 resulted from various forms of violence and 358 were the subject of coroners' inquests. The causes of 34, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Sheffield, Leeds, Bristol, Bradford, Nottingham, and in 54 other smaller towns. Of the 34 uncertified causes of death, 6 were registered in Liverpool, 5 in Birmingham, and 2 each in Stoke-on-Trent, Blackpool, and Hull.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1107 births and 638 deaths were registered during the week ended Saturday, Oct. 11th. The annual rate of mortality in these towns, which had been 14·4, 15·1, and 14·5 per 1000 in the three preceding weeks, rose to 14·7 per 1000 in the week under notice. During the thirteen weeks of last quarter the mean annual death-rate in these towns averaged 14·3, against 12·7 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate last week ranged from 7·5 in Kilmarnock, 7·6 in Ayr, and 12·1 in Edinburgh, to 19·3 in Perth, 19·5 in Greenock, and 20·4 in Coatbridge.

The 638 deaths from all causes were 11 in excess of the number in the previous week, and included 81 which were referred to the principal epidemic diseases, against numbers declining from 126 to 81 in the four preceding weeks. Of these 81 deaths, 43 resulted from infantile diarrhœal diseases, 14 from measles, 13 from diphtheria, 6 from scarlet fever, 3 from whooping-cough, and 2 from enteric fever, but not one from small-pox. These 81 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 2·7 per 1000 in the 96 large English towns. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had declined from 96 to 43 in the four preceding weeks, were again 43 last week, and included 15 in Glasgow, 9 in Dundee, 4 in Edinburgh, and 3 in Paisley. The deaths referred to measles, which had been 9, 10, and 8 in the three preceding weeks, rose to 14 last week; 10 deaths occurred in Glasgow and 2 in Edinburgh. The fatal cases of diphtheria, which had steadily risen from 5 to 14 in the six preceding weeks, were 13 last week, of which 4 were registered in Glasgow, 3 in Aberdeen, and 2 in Edinburgh. The 6 deaths attributed to scarlet fever, comprising 3 in Aberdeen, 2 in Glasgow, and 1 in Motherwell, were equal to the average in the six preceding weeks. The deaths referred to whooping-cough, which had been 9, 6, and 5 in the three preceding weeks, further declined to 3 last week, of which 2 occurred in Glasgow and 1 in Paisley. The 2 fatal cases of enteric fever were recorded in Edinburgh and Leith respectively.

The deaths referred to diseases of the respiratory system, which had been 63, 66 and 69 in the three preceding weeks, further rose to 84 last week; 23 deaths were attributed to different forms of violence, against 26 and 27 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 560 births and 394 deaths were registered during the week ended Saturday, Oct. 11th. The annual rate of mortality in these towns, which had been 19·8, 21·0, and 18·0 per 1000 in the three preceding weeks, further declined to 17·1 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these Irish towns averaged 18·2 per 1000; in the 96 large English towns the corresponding rate did not exceed 12·7, while in the 16 Scotch towns it was equal to 14·3 per 1000. The annual death-rate last week was equal to 18·9 in Dublin (against 14·2 in London and 14·9 in Glasgow), 16·7 in Belfast, 24·5 in Cork, 7·6 in Londonderry, 12·2 in Limerick, and 15·2 in Waterford, while in the remaining 21 smaller towns the mean death-rate did not exceed 14·9 per 1000.

The 394 deaths from all causes were 21 fewer than the number in the previous week, and included 68 which were referred to the principal epidemic diseases, against numbers declining from 132 to 94 in the four preceding weeks. Of these 68 deaths, 55 resulted from infantile diarrhœal diseases, 4 from diphtheria, 3 from enteric fever, 3 from whooping-cough, 2 from scarlet fever, and 1 from measles, but not one from small-pox. The mean annual death-rate

from these diseases last week was equal to 3·0 per 1000; in the 96 large English towns the corresponding rate was 2·7, while in the 16 Scotch towns it did not exceed 1·9 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily declined from 111 to 78 in the four preceding weeks, further fell to 55 last week; of this number 29 occurred in Dublin, 9 in Belfast, 4 in Cork, and 3 in Clonmel. The deaths referred to diphtheria, which had been 4, 1, and 3 in the three preceding weeks, were 4 last week, and comprised 2 in Dublin and 2 in Belfast. The 3 fatal cases of enteric fever, which were equal to the number recorded in the previous week, were recorded in Dublin, Belfast, and Clonmel respectively. The 3 deaths attributed to whooping-cough were slightly below the average in recent weeks, and were recorded in Dublin, Galway, and Bangor respectively. The fatal cases of scarlet fever were registered in Dublin and Belfast, and that of measles in Dublin.

The deaths referred to diseases of the respiratory system, which had been 56, 60, and 34 in the three preceding weeks, rose to 54 in the week under notice. Of the 394 deaths from all causes, 122, or 31 per cent., occurred in public institutions, and 4 resulted from various forms of violence. The causes of 14, or 3·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Henry Edward Tomlinson has been placed on the Retired List at his own request (dated Oct. 14th, 1913).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Reginald J. C. Cottell is placed on retired pay (dated Oct. 13th, 1913).

Major Gerard W. Tate to be Lieutenant-Colonel, vice J. Richie, deceased (dated Oct. 7th, 1913).

Colonel G. D. Hunter, D.S.O., has embarked for a tour of service in India. Colonel J. Maher has been selected for appointment as Assistant Director of Medical Services to the Gibraltar Command.

Lieutenant-Colonel J. S. Davidson, in charge of the Military Hospital at Agra, has been selected for the increased rate of pay under Article 358 of the Royal Warrant for Pay and Promotion. Lieutenant-Colonel J. H. Daly has been transferred from Limerick to the Belfast District and appointed Senior Medical Officer to the North Irish Coast Defences. Lieutenant-Colonel F. P. Nichols has been appointed to hold charge of the Military Hospital at Taunton. Brevet-Colonel and Lieutenant-Colonel C. H. Melville has been permitted to transfer (by exchange) to the Home Establishment, vice Lieutenant-Colonel J. M. F. Shine, appointed for a tour of service in India. Lieutenant-Colonel W. C. Beevor, C.M.G., has been selected for appointment as Deputy Assistant Director of Medical Services to the North Midland Division. Lieutenant-Colonel O. R. A. Julian, C.M.G., has been transferred from the Irish Command to the London District for duty at the Royal Hospital, Chelsea, in succession to Lieutenant-Colonel R. J. C. Cottell. Lieutenant-Colonel G. A. T. Bray has been placed under orders for a tour of service with the Seventh (Meerut) Division of the Northern Army in India.

Major S. L. Cummins has been selected for appointment as Assistant Professor of Pathology at the Royal Army Medical College. Major J. V. Forrest has arrived home on leave of absence from Khartoum. Major J. D. Alexander has been appointed for duty at the Military Hospital, Calcutta. Major R. L. Argles has been appointed for service in India. Major E. V. Aylen has taken up duty at Gharial. Major E. H. Condon has been placed under orders to embark for a tour of service with the Seventh (Meerut) Division of the Northern Army in India. Major B. B Burke has been appointed to the Eastern Command for duty. Major G. St. C. Thom has been appointed for duty on board the transport s.s. *Rewa*, which left Bombay for Southampton with tour-expired troops on Oct. 10th. Major H. J. M. Buist, D.S.O., commanding No. 23 Company of the Royal Army Medical Corps at Roberts' Heights, Pretoria, has been selected for advancement to the rank of Lieutenant-Colonel, in succession to Lieutenant-Colonel O. L. Robinson, supernumerary. Major J. G. Churton has taken up duty as Specialist in Operative Surgery at the Military Hospital, Bangalore Cantonment. Major E. G. Ffrench has been appointed to hold charge of the Military Hospital at Poonamallee Cantonment, Madras Presidency. Major W. P. Gwynn, on expiration of leave of absence home from Shwebo, Upper Burma, has been appointed to the Irish Command. Major S. W. Sweetnam has been transferred from the Indian to the Home Establishment.

Captain W. F. Ellis has been selected for appointment as Specialist in Operative Surgery to the Cambridge Hospital at Aldershot. Captain W. B. Purdon has joined at Belfast. Captain G. S. Wallace has embarked for a tour of service with the Ninth (Secunderabad) Division of the Southern Army in India. Captain F. L. Bradish has been appointed to the Dublin District. Captain W. M. MacDowall has been placed under orders to embark for a tour of service in the Sierra Leone Protectorate. Captain G. F. Rudkin has taken up duty in the Dublin District. Captain J. R. Foster has been granted six months' leave of absence home from India with permission to revert to the Home Establishment at its conclusion. Captain D. S. B. Thomson has arrived home on leave of absence from duty with the Egyptian Army. Captain J. McKenzie has been placed under orders for a tour of duty with the Eighth (Lucknow) Division of the Northern Army in India, embarking Oct. 22nd. Captain O. C. P. Cooke has been appointed to the Cork District. Captain A. S. Cane has been selected for appointment as Specialist in Dermatology and Venereal Diseases at the Military Hospital, Poona Cantonment. Captain H. O. M. Beadnell has taken up duty at the Military Hospital, Tidworth, Salisbury Plain. Captain D. Coutts has been transferred from Ranikhet Cantonment to the Military Hospital at Agra. Captain D. Ahern has been appointed medical officer in charge of Abbassia, Cairo. Captain C. A. T. Conyngham has been appointed Specialist in Dermatology and Venereal Diseases at Mhow. Captain J. R. Foster has arrived home on leave of absence from the Military Hospital at Neemuch Cantonment. Captain K. A. C. Dorg has been placed under orders for a tour of duty with the Seventh (Meerut) Division of the Northern Army in India. Captain B. Johnston has taken up duty in the Cork District. Captain J. M. B. Rahilly has taken up duty at the Military Hospital, Shorncliffe. Captain M. P. Leahy has been transferred from the Dublin District to Maryborough Head. Captain J. G. Bell has embarked for a tour of service in the Straits Settlements. Captain A. C. Amy has been granted six months' leave of absence home from India, reverting to Home Establishment at its expiration. Captain J. du P. Langrishe has arrived home on leave of absence from the Military Hospital at Kirkee Cantonment. Captain T. S. Dudding has been placed under orders to embark for India for duty with the Sixth (Poona) Division of the Southern Army. Captain W. G. Maydon has taken up duty at the Military Hospital, Glasgow. Captain A. M. Pollard has arrived home for duty from South Africa. Captain H. Gall has been transferred from the Military Hospital at Sialkot Cantonment to Khyra Gali, Murree Hills District. Captain T. E. Harty has embarked for a tour of service in the Sierra Leone Protectorate.

Lieutenant R. W. Vint has been placed under orders to embark for a tour of service with the Northern Army in India. Lieutenant W. Bissett has been appointed to hold charge of the Cantonment General Hospital at Dagshai Cantonment. Lieutenant O. W. J. Wynne has embarked for a tour of service in India.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. Duer has been granted an extension of leave of absence home from India. Lieutenant-Colonel P. Carr-White has been appointed Agency Surgeon to the Kotah and Jhalawar States on return to duty from leave of absence. The services of Lieutenant-Colonel T. E. Dyson have been placed temporarily at the disposal of the Government of India.

Major C. A. Lane, Civil Surgeon at Murshidabad, has been

transferred to Darjeeling and appointed to officiate as Civil Surgeon during the absence on sick leave of Major J. Gwyther. Major H. B. Foster has taken up duty at Calcutta. Major N. P. O'Gorman Lalor has arrived home on leave of absence from India. Major J. C. Robertson has been appointed Sanitary Commissioner at Delhi. Major J. H. McDonald has been granted six months' extension of leave of absence home from India on medical certificate. Major L. J. M. Deas, Agency Surgeon to the Bhopawar State, has been appointed to officiate as Political Agent during the absence on leave of Lieutenant-Colonel B. E. M. Gurdon, C.I.E., D.S.O. Major V. H. Roberts, Civil Surgeon at Seoni, has been appointed to hold medical charge of the Chhindwara District during the absence of Captain W. J. Fraser on special duty at the Central Research Institute, Kasauli Cantonment. Major W. F. Harvey has taken up duty as Director of the Central Research Institute at Kasauli Cantonment in succession to Sir David Semple, R.A.M.C., who has relinquished the appointment.

Captain N. M. Wilson, on return to India from leave of absence home, has been appointed to officiate as Civil Surgeon at Dera Ghazi Khan. Captain R. H. Bott has been appointed to officiate as Professor of Surgery at the Government Medical College, Lahore, during the absence on leave of Lieutenant-Colonel E. V. Hugo. Captain A. S. M. Peebles, superintendent of the Central Lunatic Asylum at Berhampore, has been appointed to officiate as Civil Surgeon of Murshidabad during the absence on deputation of Major C. A. Lane. The services of Captain R. S. Kennedy have been replaced at the disposal of the Government of India. Captain A. C. Ingram has been granted leave of absence home from India for one year and eight months. Captain M. J. Quirke has been appointed to officiate as Sanitary Commissioner to the Madras Presidency during the leave of absence of Captain M. A. Justice. Captain G. A. Jolly has been transferred fram Mainpuri and appointed Civil Surgeon at Fategarh. Captain H. S. Hutchison has been appointed to officiate as Deputy Sanitary Commissioner of the Central Registration District in Bombay during the absence on special duty of Lieutenant-Colonel T. E. Dyson. Captain J. H. Horton, D.S.O., has been appointed Civil Surgeon at Sukkur during the absence on leave of Major C. R. Bakhle.

SPECIAL RESERVE OF OFFICERS.

Lieutenant George F. Randall to be Captain (dated Sept. 19th, 1913). Lieutenant Charles J. Simpson resigns his commission (dated Oct. 15th, 1913). Lieutenant Henry P. Crow is confirmed in his rank.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st Welsh Field Ambulance, Royal Army Medical Corps: Lieutenant Edmund V. Connellan to be Captain (dated August 1st, 1913).

2nd Welsh Field Ambulance, Royal Army Medical Corps: Lieutenant John S. Rowlands resigns his commission (dated October 11th, 1913).

Attached to Units other than Medical Units.—Lieutenant Lewis Beesly to be Captain (dated June 1st, 1913). Lieutenant-Colonel William Wilson resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated October 11th, 1913).

For attachment to Units other than Medical Units.—Sidney Scott (late Second Lieutenant, 4th Northumbrian (County of Durham) (Howitzer) Brigade, Royal Field Artillery), to be Lieutenant (dated October 11th, 1913).

DEATHS IN THE SERVICES.

Lieutenant-Colonel John Ritchie, R.A.M.C., on Oct. 6th in Glasgow in his fifty-second year. He entered the service in 1887, and in 1898 went out to West Africa. He was present at the operations in Sierra Leone, 1898–9 (medal with clasp), and during the South African war took part in the operations in the Orange River Free State in 1900, and later in the operations in the Transvaal, including the actions near Johannesburg, Pretoria, and Diamond Hill. He was also engaged in the operations in the Orange River Colony, including the actions at Wittebergen, and in Cape Colony, south of Orange River (Queen's medal with four clasps and the King's medal with two clasps).

Major Herbert Cumming French, R.A.M.C., in his 44th year. With previous service he became Surgeon-Lieutenant in 1893 and attained the rank of Major in 1905. He served in the South African war and took part in the operations in the Transvaal and in the Orange River Colony 1901–02 (Queen's medal and two clasps). He was specialist in dermatology at Cairo in 1904, at Woolwich in 1905–06, and at Malta in 1909.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1024.*)

XXIII.—NEWCASTLE: EARLY ORGANISATION OF MEDICAL UNIONS AND THEIR DECAY.

AT Newcastle I found much dissatisfaction still prevalent as to the manner in which the resistance to the National Insurance Act had been conducted, and in regard to the attempts to amend the Insurance Act the same feeling was expressed. It must be borne in mind that both in Northumberland and Durham the medical profession has been organised for some time, so that failure was not expected. Many strikes have taken place, and on the whole the medical unions in these contests came off victorious. Since the autumn of 1900 the work of organisation had been particularly active, and, indeed, I have described at length some of the achievements of the Northumberland and Newcastle Medical Association, and other bodies like the Newcastle Medical Ethical Society and the Northumberland and Durham Medical Union.[1] One of the chief of these achievements was the raising in most of the colliery districts of the sums paid to the colliery surgeons by no less than 50 per cent. Formerly the collier paid 6*d.* a fortnight for medical attendance on himself and his family, and this was raised to 9*d.* Then the war against imported medical men proved very effective, a black list was rigorously kept, and the coöperation of consultants was obtained. The different bodies, some of whom afterwards coalesced, were well disciplined fighting bodies, and their union was not merely a name but a reality, for they fought and won many a battle. To-day, however, what remains of these organisations has lost much of its old vigour with loss of individuality. This, perhaps, was inevitable. The British Medical Association, which under its new constitution absorbed these Northern medical leagues, was expected to strengthen the influence of the local unions, while it was said that expense would be saved for those members who belonged to their local union as well as to the British Medical Association. It was agreed that the organisation of the unions should be maintained under the name of a committee, the Durham Committee and the Newcastle Committee of the British Medical Association. This amalgamation was effected some three years before the National Insurance Bill was discussed, and did not work harmoniously. Nothing will be gained now by raking up old grievances; it suffices to say that at one time there were acute differences of opinion in Newcastle on the subject of united action in regard to the National Insurance Bill, but when the offer of 8*s.* 6*d.* was made public it was soon quite clear that resistance would no longer be possible. Professor Rutherford Morison and many others still think it would have been wiser to have accepted under protest this offer instead of exhibiting the weakness of the organisation of the profession by an abortive attempt at resistance. Nearly all the general practitioners went on the panel.

The Insurance Committee's Work.

The population of Newcastle is 266,603, according to the last Census, and the Insurance Committee has the record of 87,000 insured persons. There are 110 practitioners on the panel, though a few of them are not actually residing in Newcastle, but practise in the suburbs. The panel doctors were promptly paid on April 15th, the very day the money was due, the full 1*s.* 9*d.* per person insured for their first quarter's

[1] See THE LANCET of Feb. 27th and April 6th, 1901, and Nov. 15th and 22nd, 1902.

work. The same business-like regularity occurred again on July 1st, 1913. There remains a very large number, more than 8000, of insured persons who have not yet selected a medical attendant. The money that these persons have paid was divided equally among all the panel doctors. But it is now proposed to allocate these insured persons, giving a larger number to the panel doctors who have the shortest lists. One panel doctor has about 3500 names on his list, and there are a few who have over 2000, but this is exceptional. The great majority of panel doctors are responsible for less than 2000 insured persons. The clerk of the Insurance Committee thinks that the Act is working well, and the fact that there has been no meeting of the medical subcommittee to sit and judge whether complaints made as to medical attendance are well founded or not is in itself evidence to the same effect. The dispensing chemists have been paid 85 per cent. on their claims. Their bills have exceeded the 1*s.* 6*d.*, but when the floating 6*d.* is added they have not overstepped the 2*s.* During the better season of the year the small deficit may be met. In the meanwhile, it is very certain that more medicine has been consumed than was ever the case before. If, therefore, drugs are of real service, the inhabitants of Newcastle should now be in the enjoyment of better health than formerly. Of course, some allowance must be made for the presence of malingering, of which complaint is made here as elsewhere. A scheme is being considered to create a medical committee whose business it should be to investigate suspected cases of malingering, and the proposal is that the panel doctors should sit in rotation on this committee, so as not to deal with their own cases. But, on the other hand, the objection can be made that the detection of malingering is a specialty in itself, and every doctor is not equally competent. The fact recently announced that the Government is now attending to the matter has, however, checked to some extent local efforts. Already two new committees are to be brought into existence in accordance with the recent amendments to the Act, one to represent exclusively the panel doctors and the other the dispensing chemists. As yet I have heard no complaints against this procedure. As long as the general Medical Committee representing all the members of the profession in the area remains intact, there seems to be no objection to the formation of minor committees to attend to special matters concerning individually the members of such committees and those who nominate them. However, these supplementary committees are not necessarily to be formed at once, so it is somewhat early to criticise.

Inadequate Tuberculosis Dispensary.

By far the most urgent matter at Newcastle at the present moment is to obtain suitable premises for the tuberculosis dispensary. This institution is for the moment situated close to the town hall. It is very accessible, but the street is so noisy that it is difficult to examine the patients. Then the dispensary only consists of two small rooms or compartments. One of these is the clerk's room, the store-room, the writing-room, and the waiting-room, all in one. The other is the consulting-room, the bacteriological laboratory, and the patients' dressing-room, also all in one. An enormous amount of time is lost by the medical officer, who has to wait till one patient has resumed his clothes before another patient can be admitted into the room. But it appears that when efforts have been made to rent larger and more suitable premises the people living near have raised objections against so many consumptive patients coming daily into their neighbourhood. This institution works partly for the health authorities and partly for the Insurance Committee. If an insured person has phthisis and applies for sanatorium benefit he is referred to the physician in charge of the tuberculosis dispensary, and the latter advises as to the treatment which should be adopted; in the majority of cases this is domiciliary. When a patient returns from a sanatorium he is expected to attend at the dispensary, and here his progress will be watched and tuberculin treatment can be given. The Insurance Committee in these cases pays 7½*d.* to the town, and the latter pays the physician who attends at the tuberculosis dispensary. Then the town undertakes to provide 120 beds, but of these only 80 are actually ready for patients. This tentative measure is probably right, for if a large hospital was built a prejudice might arise against the place, and patients might refuse to go there, for there are no compulsory powers. However, there is one good feature already manifest in the attitude of the people at Newcastle. The idea of early treatment is becoming more and more popular. Also confidence has grown as to the discretion observed at the dispensary. Nothing is ever said except in regard to children attending school, so that adults coming for advice are not afraid of losing their employment. Thus persons who are in doubt now come freely to be examined at the tuberculosis dispensary, and therefore it is all the more necessary that proper premises should be secured.

Where the Wage Limit is Needed.

In Newcastle the panel doctors working in the industrial districts are well satisfied with results. In neighbourhoods such as Heaton they can get their visiting done with ease and promptitude owing to the fact that the ceremonies of social calling are not required of them. But in the West-end the position is different. Here we have a population of clerks and persons of moderate incomes who are employed in trade or commerce. They live in small, well-kept, self-contained houses, and many keep a servant. When the panel doctor calls he cannot open the street door, announce himself, and walk straight in. He must ring the bell, wait perhaps while the servant girl puts on a clean apron before she opens the door. Then instead of seeing the patient at once he is introduced into a small parlour, where he lingers till the patient is apprised of the visit and has had his bedclothes straightened out a little. Altogether, the doctor finds that the visits to his contract patients absorb as much of his professional time as those to his private patients. This class of patient has been accustomed to pay the fees—low fees, of course—to their medical attendants; and the fact that to-day they are insured persons makes no difference to their domestic arrangements. Their front doors remain shut, and the doctor, whether on the panel or not, must ring the bell to gain admittance. Among the colliers living side by side in a row of little cottages, with their front doors open, it would be possible, though not desirable as a routine, to make 20, even 25, visits in an hour. At Newcastle, in such districts as Heaton, perhaps 15 visits may be made in the hour, but in the West-end three, four, or five visits is the most that can be done in that time. Yet in all these cases the remuneration under the contract system is exactly the same. So enormous is the difference and the loss it entails on the West-end practitioners that three of them have resigned their position on the panel. Here more than in any locality which I have yet visited has the necessity for establishing a wage limit seemed clearest to me. It is said, however, that it is not worth while taking the great amount of trouble this would entail, for there are so very few insured persons whose income is above £104 a year and under £160. That is doubless true; but if their number be small in comparison with a total of some 14,000,000 insured persons, they cluster together, and in certain districts they constitute perhaps the large majority of the inhabitants. Thus, if the medical profession as a whole does not suffer much for the want of a wage limit its absence means grave loss for individual practitioners living in the districts where this class of insured persons habitually resides.

One practitioner in the West-end, who had about 1200 insured persons on his list, told me that his private practice among people whose income exceeded £160 amounted to 20 per cent. of the whole practice. The remaining 80 per cent. were all insured persons, and of these only 32 per cent. were earning less than £2 a week, while 48 per cent. received more than £2 a week, though apparently less than £160 a year. A wage limit would therefore restore to him as private patients, paying full fees, 48 out of every 80 insured persons. Instead of a practice with only 20 per cent. of private patients and 80 per cent. of contract patients the wage limit would give him a practice of 68 per cent. of private patients and only 32 per cent. of contract patients. After giving me these details my informant expressed the opinion that if the profession had made a firm stand in November, 1912, the wage limit could have been introduced into the Bill. In Newcastle the medical profession has continued to feel keenly on this point, and it was frequently mentioned to me. The Newcastle Insurance Committee, however, instead of deciding last January whether they would establish a wage limit, put the matter off for three months. Then the committee would not at once discuss the matter, but wanted the panel doctors

to sign the engagement first that they would continue their service for the remaining nine months of this year. Thereupon four West-end doctors resigned, and after that, in the absence of those who were most interested in the matter, it was easy for the committee to decide that nothing could be done in regard to a wage limit. At a meeting of the Newcastle Trades Council the question of a wage limit was also discussed, and one of the trade union representatives said "he would not think of consulting a panel doctor." If there are many insured persons in Newcastle who have not selected their panel doctor this is not due in the main to negligence, but to the fact that many members of the public do not care to be attended under the contract system. Thus they have, as it were, voluntarily imposed on themselves a wage limit, since they will pay fees and refuse the service of their panel doctor. Consequently the practitioners who have refused to go on the panel are benefiting, particularly as they are not numerous. It will be seen, therefore, that in Newcastle medical men, consulting merely their pockets, would not be unanimous in their views of the Act. For some it has meant prosperity; some have been hard hit by it.

The Colliery Surgeons and the 9d.

Though there are only two coalpits in the district Newcastle is nevertheless a great coal-trade centre, and it is from Newcastle that the colliery surgeons were helped to organise their unions. It has been explained how these unions succeeded in raising the pay from 6*d*. to 9*d*. per fortnight per family, but this has been upset by the Insurance Act, and a new arrangement is still a matter of dispute. Now that those who work in the pits are insured persons the pitman as the head of a family refuses to pay the 9*d*. per fortnight, since he is also paying for his own insurance separately and under the Act. A colliery surgeons' committee does exist, but it is not easy to discover what it has done. The colliery surgeons, for the most part, have been left to fight their own battle, and in their isolated, disorganised condition not a few have had to relapse into the old terms of 6*d*. per fortnight for attending the non-insured members of a collier's family. Undoubtedly, all the colliery surgeons should have been convoked so as to agree on the terms they would one and all ask. Seeing that insured members of each family contribute separately, it is quite natural that the colliers should expect to pay a little less for their families. If the surgeons had unanimously offered to accept 8*d*. instead of 9*d*. the probabilities are that this would have been generally accepted. A great number of colliery surgeons, however, insisted on maintaining the 9*d*. Though they would have fewer patients, they argued that the giving of certificates would entail more trouble. Then there is the question of the boys, on whom there is undoubtedly a dead loss. Before the Act, when a boy reached the age of 16 and descended into the pit to work, he paid 6*d*. per fortnight for medical attendance, and in some districts he even paid the full 9*d*. per fortnight. At the lower figure this meant 13*s*. for the colliery surgeon. Now, and under the Act, the doctor only receives 7*s*. Under the old system the fact that youths paid more than their share, if judged by the amount of trouble they gave, served to compensate the fact that the payments made for the women and children were insufficient. Also, before the Act if a certificate was required the colliery surgeon charged a shilling for it; now under the Act no charge can be made for the certificates when required by insured persons. Thus a youth brings in 7*s*. per annum instead of 13*s*. and has certificates for nothing instead of paying a shilling for each. Then there is a new difficulty in regard to collecting the money from non-insured persons. When there was but one payment effected, and that was by the chief wage-earner, the colliery owner deducted the amount from the wages and handed it over to the colliery surgeon. This prevented bad debts and simplified matters. But to-day it is for the women and children that the money has to be collected, and the colliery owners know nothing about them. Also the money when collected has to be paid, not to one colliery surgeon, but to different panel doctors. This the cashiers at the collieries object to do. It is not their business, and if they undertook such work they would expect a commission of 5 to 10 per cent. on the money handled. Thus it comes about that many colliery surgeons insist on the 9*d*. as before the Act, though they will have a smaller number of persons to attend. But in several places where this stand has been made doctors have come in from outside offering to do all that is required for 6*d*. per fortnight. In the olden days, when the unions were well organised and managed, the advent of such practitioners was promptly signalised, and they were so rigorously dealt with that their departure was not long delayed. But the merging of the local well-disciplined and fighting unions into the larger but not so compact British Medical Association renders quick action less easy, and has discouraged many of the local practitioners who formerly fought so well.

(To be continued.)

WALES.

(FROM OUR OWN CORRESPONDENT.)

The Medical Officership of Health of Abertillery.

THE Local Government Board has constantly urged the sanitary authorities in the Monmouthshire colliery districts to appoint whole-time medical officers of health, and in 1906 definitely suggested the combination for that purpose of the urban districts of Abertillery, Nantyglo and Blaina, and Ebbw Vale. The councils of these three districts were not able to come to any agreement on the matter, but about four years ago the Abertillery council appointed, nominally as a whole-time officer, Dr. A. E. Remmet Weaver, who was to hold the joint office of medical officer of health and school medical officer, at a salary of £400 per annum. Subsequently he was paid an additional £10 per annum for acting as medical officer of the school clinic. Of his total salary £250 were allocated as that of medical officer of health, and one-half of this sum came from the Exchequer grants, so that the contribution from the local rates to his salary was £285. In later years further grants were received from the Board of Education, so that latterly the cost to the ratepayers has only been £205 per annum. Dr. Weaver has been appointed medical officer of health for the borough of Yeovil, and the Abertillery council is desirous of continuing to his successor the low salary which he has been receiving. The Local Government Board, however, is pressing for a minimum salary of £500 per annum, which can hardly be considered extravagant for a district with a population of 39,000 persons scattered over a hilly district with an area of ten square miles. There are about 7000 school children, and the medical officer of health is expected to attend at the fever hospital, to take charge of the school clinic, and to carry out the bacteriological examinations necessary. The avowed reason for paying so low a salary is that the local rates are so high. If economies are to be exercised it is hardly prudent to do so by underpaying a responsible official, the results of whose labours cannot always be measured in pounds, shillings, and pence.

The Reduction of Pauperism.

At the North Wales Poor-law Conference recently held in Chester, Mr. Herbert Lewis, Parliamentary Secretary to the Local Government Board, stated in his presidential address that in Wales and Monmouthshire the rate of pauperism was 25 per 1000 of the population, or a reduction of 5 per 1000 in the past four years. In the whole of England and Wales the rate had been reduced in four years from 27 to 22 per 1000. He suggested the desirability of appointing women as relieving officers.

Public Health in the Rhondda Valleys.

The persistent attention that has been given in recent years to the removal of insanitary conditions in the Rhondda urban district is at last bearing fruit, and the vital statistics which the medical officer of health, Dr. J. D. Jenkins, includes in his recently issued annual report for 1912 are of a very satisfactory character when compared with those of former years. The death-rate from all causes in that year was 13·8 per 1000, and the infantile mortality rate was 127 per 1000 births. The latter rate was 26 per 1000 above that recorded during the same period in the 95 great towns of England and Wales, but it is the lowest Rhondda rate yet recorded. Among the most potent factors operating prejudicially to the preservation of infant life in the district, Dr. Jenkins mentions the abnormally high birth-rate, which in 1912 was 33·1 per 1000, the number of

stillbirths, the early age of the mother at marriage, the urban conditions of life, domestic insanitation, housing conditions, and the ignorance and carelessness of mothers. In many north country towns, among the insanitary conditions which are said to increase the number of deaths among young children there is usually included the presence of privy middens or of the accumulation on household premises of house refuse. It is interesting to learn from Dr. Jenkins that water-carriage is practically universal in the Rhondda urban district, for nearly 27,000 houses are provided with water-closets, and at only 146 houses are there privy middens or pail closets. Fixed ashpits are also non-existent, for there is a daily removal of all household refuse, the collection being completed before 1 P.M. each day. The ultimate destination of this refuse is, however, not at all satisfactory. For about ten years and until two years ago a small destructor was in use, but it dealt with quite an inappreciable quantity of the refuse collected, and the greater part was deposited on huge tips in various parts of the district. With the large amount of building that has been going on there has been an increasing difficulty in obtaining sites for this deposit, and dwellings have crept nearer and nearer to the existing tips. There is now to be erected at Porth a modern destructor capable of dealing with about 82 tons of refuse daily, or about one-third of the total amount produced in the whole district. The heat derived from the use of the destructor is to be used by the Electric Power Distribution Company, and if Dr. Jenkins's advice is carried out it will also be available for a steam disinfector to supplement that at the isolation hospital some five miles distant. Among other recommendations made by Dr. Jenkins are the erection of municipal slaughter-houses; the application of provisions contained in the special Acts of Parliament of the district for the control of the milk-supply, with special reference to the spread of infectious disease; and the acquisition of plots of land situated in localities at present unprovided for and suitable for purposes of recreation.

Oct. 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University: the New Chair of Bacteriology.

Professor James Ritchie delivered his inaugural lecture in the McEwan Hall on Oct. 7th, in the presence of a large gathering of students and of the public. Principal Sir William Turner presided, and was accompanied on the platform by a number of professors and lecturers. Professor Ritchie took as his subject the Place of Bacteriology among the Sciences.

Clinical Instruction in Edinburgh Royal Infirmary.

Sir Thomas Fraser, in his opening address to the combined classes of clinical medicine at the Royal Infirmary, which is reported in another column, outlined the new scheme which is now adopted, and which has already been described in THE LANCET. A successor to Professor Greenfield has not yet been appointed, but the joint committee of the University Court and the infirmary managers met on Oct. 11th to recommend a leet of two to the University Court, in order that one of them may be appointed to the Moncrieff Arnott chair of Clinical Medicine. It is understood that the committee selected from the list of applicants for the new chair Dr. William Russell and Dr. Graham Brown. These names will be submitted to the University Court, which will make the appointment.

Scarlet Fever Outbreak in Edinburgh.

There has recently been a considerable outbreak of scarlet fever in the city, with the result that between 20 and 30 cases are under treatment at the city fever hospital. The public health office, acting with commendable celerity, at once traced the milk-supply of the sufferers to its source, with the result that the origin of the disease was discovered, and risk of an epidemic almost certainly averted.

Queen Mary's Nursing Home for Patients of Limited Means, Edinburgh.

The new nursing home, Chalmers-street, Edinburgh, recently opened by Lord Balfour of Burleigh, is intended to bridge the gap between the supply of nursing accommodation and treatment provided for the poorer class in the hospitals and that for the well-to-do given in expensive private homes. It is an extension of a pioneer institution in Rutland-square. At a public meeting in Edinburgh in 1911, under the chairmanship of Sir Robert Usher, Bart., a committee was formed, with Lord Dunedin as chairman, Professor Lodge, chairman of executive, and Dr. D. Chalmers Watson, the initiator, as honorary secretary, to appeal for the sum of £13,500 to defray the cost of building and furnishing, when the home, at the moderate fees it was intended to charge patients, could be made self-supporting. Of that sum over £13,000 have been raised. Three continuous villa residences were purchased in Chalmers-street, and under the supervision of Mr. T. Duncan Rhind, A.R.I.B.A., the interiors were reconstructed to fit them for their new purpose. All cornices and skirting have been eliminated to reduce the lodgment of dust to a minimum. The home, available for both sexes and either medical or surgical treatment, contains about 50 beds; two wards each of 8 beds; five of 3 beds; one of 2 beds; twelve private rooms with 1 bed; and a children's nursery, 4 beds. The charges range from £1 1*s.* to £3 3*s.* per week for maintenance and nursing, the patients also being responsible for the doctor's fee. Her Majesty the Queen, in becoming a Patron, has given permission for the Home to be called by her name. The doors of all rooms have been made wide enough to allow a bed to be easily passed in and out. There are two first-class operating theatres, lighted from the east side and from the roof. The floor and the walls (to the height of 4 feet) are in green and white Terrazzo marble; the upper walls in cement, plaster enamelled. Between the two theatres is a sterilising room. Opening off the hall that conducts to the operating theatres is an anæsthetic-room with side folding doors; there is a store for sterilised instruments. In the basement is a room fitted up with X rays, with a dark room, and a doctor's room adjoining. The nursing staff consists of 16, and the domestic staff of 7, with a porter. The matron and chief officials have been transferred from the Rutland Nursing Home, now incorporated in the new Home.

Free Blood Examinations in Glasgow.

Provision has been made in the Public Health Laboratory of Glasgow for carrying out free of charge to medical men the Wassermann reaction and other tests mentioned in the resolution of the corporation of April 17th. The requisite equipment for collecting the sample to be examined will be supplied on application by medical men, and this should be returned to the medical officer of health with the information requested in the schedule accompanying the equipment. The name of the patient need not be given, but the age, sex, and occupation, together with the leading symptoms present, and the name of the ward of the city in which the patient resides, must be stated. The test should be had recourse to only where external manifestations of specific disease are absent and the symptoms otherwise obscure. A fee of 2*s.* 6*d.* will be paid for each sample of blood forwarded for examination.

Diphtheria in Aberdeen.

The number of cases of diphtheria notified last week in Aberdeen was 92 up to Friday morning. For the same period in the previous week only 60 cases were notified. The cases continue for the most part to be mild, there having been very few deaths so far. Not only is there no sign of abatement of the epidemic, but the number of children affected increases daily. The school water is still cut off, and on the advice of the medical officer of health the children are urged to gargle with a disinfectant three times a day. The teachers are also endeavouring to keep articles such as pen, pencils, &c., from circulating in the classes.

Typhoid Fever in Aberdeen.

The report of Dr. Matthew Hay, medical officer of health, on the typhoid outbreak which occurred in Aberdeen last year has now been laid before the public health committee of the Aberdeen town council. The report is divided into four parts, the first part dealing with the previous history of typhoid fever in Aberdeen, the second part dealing with last year's outbreak, the third with paratyphoid cases, and the fourth giving additional information regarding the persons attacked in the outbreak of typhoid and paratyphoid. With regard to the outbreak in 1912, the report states that

suddenly in the course of October, 1912—after the notification of only 15 cases (including four cases from a foreign ship) in the whole of the preceding nine months, most, if not, all of which had been traced to their sources—54 cases of typhoid (including paratyphoid) were notified or discovered, followed by 43 in November and by eight in December. Only once in the preceding 25 years had the number of cases in any one month exceeded the numbers in October and November, 1912. This was in December, 1898, when there were 61 cases. In the preceding months of that year, September, October, and November, the numbers were 30, 20, and 30 respectively, and in the immediately succeeding month of January, 1899, there were 32 cases, making in all 173 cases in five months. In the two months preceding the outbreak of 1898 the numbers were 5 and 6 respectively, and in the whole first eight months of the year only 38 cases were notified. The two outbreaks, therefore, bear some resemblance to each other. The earlier outbreak Dr. Matthew Hay believes to have originated in milk infection. The report goes on to describe how the search for possible sources of infection of the 1912 outbreak led to a creamery, and on from there to a farm—the only one—which sent part of its milk to the creamery and part into Aberdeen.

Oct 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Labour Trouble in Dublin.

THE labour dispute in Dublin cannot fail to have important effects upon the state of the public health should its settlement be long postponed. Up to the present, though all social workers admit that distress is keen and widespread, there has not been any marked increase of disease, at any rate among adults. There is not any unusual pressure on hospital accommodation, at any rate since the attacks on the police and the consequent retaliations in the early days of the dispute. Among infants there has been an excessively high mortality during the past few weeks, which, though due primarily to the prolonged dry summer, must have been accentuated by the present distress. Many relief agencies are doing useful work among those out of employment. On each of the last three Saturdays a relief ship loaded with supplies of household provisions has arrived in the river from Manchester. In addition, provisions are dispensed at Liberty Hall, as the headquarters of the Irish Transport Workers' Union are called. It is natural that the system of distribution has not been perfect, and abuses have arisen. Some of the supplies of food have been sold by the recipients, and the money spent in the purchase of drink. On the whole, however, there is little doubt that the supplies have reached those for whom they were intended. A relief fund for women and children only has been organised by the Lady Mayoress and a committee of ladies, and has reached some £500 or £600, in spite of a somewhat chilling reception by the daily press, which, having taken a definite stand against the workers, appears to regard assistance given in any form to those in distress arising out of the dispute as a subsidy to one of the parties. The Lady Mayoress's committee spends most of its funds in supplying free meals in the schools, and has enlisted the cordial help of the teachers, many of whom are members of religious communities. The sisters who visit the poor in their homes also undertake to distribute assistance in needy cases, and the coöperation of the Jubilee nurses has been freely given. In the early days of the dispute some anxiety was felt by hospitals and other institutions, as well as by private consumers, as to their coal supplies. At present, however, the coal merchants are meeting all orders. More recently some inconvenience has been experienced with regard to the delivery of other goods. In particular, there has been a scarcity of nitrous oxide gas on a few occasions, and the dealers can never be confident of having a supply in hand.

Excessive Claims for Sickness Benefit.

The Irish Insurance Commission has recently appointed a committee of inquiry for the following purposes: (*a*) "To investigate the question of excessive claims for sickness benefit and of the safeguards to be taken to prevent insured persons from receiving sickness benefit unless they are properly entitled thereto; and (*b*) to formulate and submit to the Commission a scheme for the distribution of the increased Exchequer grant-in-aid of £91,000 which it is proposed to ask Parliament to grant next year towards the cost of medical certificates and other expenses of administration owing to the absence in Ireland of medical benefit under the National Insurance Act, 1911." The committee is to take evidence on the various points of the terms of reference, and will hold sittings in certain convenient centres. Help is asked from the Approved Societies, the Insurance Committees, and the Local Medical Committees. It would appear that complaints have been made by the officials of Approved Societies that excessive claims were being made for sickness benefit. This is no doubt true, but it is equally true that many persons entitled to sickness benefit have been denied it, particularly in the case of one society. Frauds on both sides are bound to be frequent as long as no arrangement exists for obtaining the evidence of the medical practitioner in attendance on the claimant. Up to the present societies have refused to exercise their powers with regard to paying for such evidence, leaving the onus of obtaining it on the insured person. They have in some instances refused to recognise any medical certificate other than those of their own medical advisers. The Insurance Commissioners have rendered confusion worse by appointing a number of official medical advisers whose only duty in regard to sickness benefit is to detect malingering. Their competence for this task has not made itself apparent, while except in Dublin and one or two populous areas, geographical considerations render them inaccessible. Their appointment has met with opposition from the medical profession, the members of which refuse to coöperate with them in any professional way.

Assistant Tuberculosis Officers in County Galway.

At a meeting of the County Galway Medical Committee on Oct. 10th the following resolution was unanimously adopted:—

That the County Galway Medical Committee has objected to the appointment of assistant tuberculosis officers in the county for these among other reasons: the Prevention of Tuberculosis (Ireland) Act and the sanatorium benefit clauses of the Insurance Act have now been in operation for two and a half years in this county. The majority of the people in the rural districts who suffer from tuberculosis are not insured persons. Up to this we have seen no steps taken to give efficient treatments to these poor people, for we cannot regard the appointment of medical advisers or assistant tuberculosis officers as being of adequate assistance to meet the exigences of the case.

Malingering under the National Insurance Act.

At a meeting of the Irish Medical Committee held in Dublin on Oct. 7th it was decided to advise all Local Medical Committees to act in reference to the inquiry proposed to be held by the Irish Insurance Commissioners through the central body—the Irish Medical Committee. The matter came before the Belfast Medical Committee on Oct. 10th, when it was decided to reply to the Commissioners' letter asking members of the Belfast Medical Committee to give evidence before an inquiry to be held into the question of undue sickness under the Insurance Act, and also as to the best way to allocate money that it is supposed will be voted next session, that the time was far too short to prepare a report on a matter requiring such careful consideration. The feeling was that the Commissioners should approach first the Irish Medical Committee on such matters. It was also arranged to appoint a subcommittee to prepare evidence for subsequent use if required.

Oct. 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Vaccine for Gonorrhœa.

AT the Académie des Sciences, on Oct. 6th, M. Laveran presented the discovery of a vaccine for gonorrhœal infection by Dr. Charles Nicolle, director of the Institut Pasteur at Tunis. Dr. Nicolle, to whom already we owe many valuable researches on cholera, trachoma, whooping-cough, and typhus, has been working for more than a year at the vaccine treatment of gonorrhœa. He has prepared a vaccine from micrococci killed by a special procedure, of which he has not yet published the technique. He prefers, he says, to

keep his method a secret, because its application may be shortly extended to other infectious diseases, and he wishes to establish his priority in this research. His experiments were finished in July, 1912. He was then assured of success, but preferred to wait so as to increase the number of his clinical cases and to present statistics that could not be gainsaid. More than 200 patients of all nationalities have been treated at the Institut Pasteur, Tunis, during the year. Dr. Nicolle and his colleague, Dr. Blaizot, have not had a single failure in either acute or chronic cases. Professor Laveran, in communicating this discovery to the Academy, gave some very interesting information on the vaccine therapy of this affection. The treatment is simple. Three or four hypodermic or intravenous injections are given every two or three days of 2 c.c. of a solution containing several milliards of micrococci. With the first injection the pain and malaise disappear. In chronic cases the patients are cured by the third or fourth injection; in acute cases a definitive cure is obtained in less than 15 days. The frequently dangerous complications which strike at the very source of life, microbic rheumatic sequelæ, are rapidly cured. But the most marvellous effects are seen in the purulent ophthalmia of the newly born. A single injection suffices to cure an ophthalmia neonati. The treatment does not occasion the least reaction, not even the slightest fever. Dr. Nicolle announces that on his return to the Institut Pasteur, Tunis, he will place at the disposal of medical men such quantities of the vaccine as may be necessary.

Congress of the Association Française de Chirurgie.

This congress was held in Paris from Oct. 6th to 11th under the presidency of Professor Kirmisson. His opening address was on the history of orthopædic surgery, its present condition, its aims and methods. The order of the day contained three subjects: The curative treatment of ankylosis by the operative method, by Dr. Baumgartner, in which he described the various methods, the reasons for choice, and the indications for operation. His co-reporter, M. Denucé, of Bordeaux, indicated the operative procedures for radical cure, applicable in the ankylosis of each particular joint—the temporo-maxillary, shoulder, elbow, wrist, fingers, hip, knee and foot, and also the post-operative treatment. A free discussion followed and Dr. Baumgartner replied. M. Pierre Duval's paper was on the surgery of the pelvic colon and its operative technique, while his co-reporter, M. Patel, of Lyons, dealt with the surgical pathology (excluding cancer), traumatic lesions, congenital malformations, faulty position of the pelvic colon, simple and specific inflammatory affections, and benign tumours. This subject was also well discussed. The last subject concerned the treatment of wounds of the skull by small-bore projectiles, and was dealt with in excellent papers by Dr. Demoulin and Médecin Major Billet. Dr. Laurent, of Brussels, under this heading made a communication on the lessons of the Balkan war from the standpoint of military surgery. He favoured early intervention, and urged the provision of ambulances with all necessary material, including radioscopic apparatus, as near as possible to the fighting line. Dr. Payo, of Königsberg, gave demonstrations of his procedure in articular resections. A very interesting presentation of apparatus closed the congress. For the next session Dr. Maunoury, of Chartres, was elected president, Dr. Walther vice-president, and Dr. Jean Louis Faure secretary.

Congress of Pædiatrics.

This congress was held in Paris on Oct. 3rd and 4th under the presidency of Dr. Netter. Nearly all the chiefs of the services of the Paris Children's Hospitals were present. Dr. Le Gendre read a noteworthy paper on the obesity of children, in which he referred to the difficulty met with in making mothers understand that excessive fatness in children was an indication of defective nutrition. But while this view was now generally accepted, the physiological causes of this trouble were not known. Nevertheless, it must be admitted that the glands of internal secretion were in some way responsible, but as these glands were numerous — thymus, suprarenals, hypophysis, &c. — the medical man was often embarrassed to know to which group to direct his attention. Dr. Marcel Nathan was commissioned to report on the glandular obesity of children and Dr. Mouriquand on the adiposo-genital syndrome in children. The subject was well discussed. The second question, cerebral tumours in children, was taken up by Dr. d'Astzos, while M. Terrien dealt with the ocular symptoms of cerebral tumours, and M. Broca and M. Français with their surgical treatment. Communications were made by M. d'Oelsnitz on the thermic, respiratory, circulatory, and hæmatologic reactions caused by heliotherapy and on the indications for heliotherapy in tuberculous affections of childhood; on heliotherapy in tuberculous peritonitis, by M. Jaubert; on the diagnosis of pulmonary tuberculosis in the nursling by rapid radiography, by MM. Ribadeau-Dumas, Albert Weil, and Maingot; and on respiratory exercises with the spiroscope, by M. Pescher.

Memorial to Professor Fulgence Raymond.

On Oct. 5th the bust of Professor Fulgence Raymond was unveiled in the presence of a large gathering of members of the Faculty of Medicine at St. Christophe-sur-le-Nais, Indre-et-Loire. In 1894 Professor Fulgence Raymond succeeded Professor Charcot at the Salpêtrière. He became a member of the Académie de Médecine, and died in 1910 at his worktable in Poitou. Addresses were made on behalf of the Government and by Professor Dastre, Professor Landouzy, and Professor Raphaël Blanchard.

General Spinal Anæsthesia.

On Oct. 1st Professor Jonnesco, of Bucharest, reported that out of 11,324 operations he had not had a single death. He had obtained deep and lasting anæsthesia, extending over the entire field of operation, with minimum doses of the anæsthetic. It had sufficed to multiply the punctures of the spinal cord, which are made as close as possible to the nerve roots. The injections are made between the third and fourth cervical vertebræ for operations on the head; between the first and second dorsal vetebræ for operations on the neck; between the last dorsal and first lumbar (in conjunction with the last named) for operations on the upper limbs and the upper part of the thorax, and alone for operations on the abdomen and the lower limbs; between the fourth and fifth lumbar vertebræ (in conjunction with the last named) for operations on the pelvis, and alone for operation on the perineum.

A New Hospital at Villejuif.

The Act of 1905 on compulsory assistance necessitated the opening of special establishments for such aged and incurable persons as could not be maintained at home. The first of these institutions has now been opened at Villejuif by the Department of the Seine, and although it has not been officially inaugurated, M. Magny, Director of Departmental Affairs, has taken all the necessary measures for the admission of 1000 aged persons. This number will be increased later to 1500. Dr. Gustave Roussy has been appointed chief physician with Dr. Méténier as his colleague.

Oct. 13th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Pellagra in the Province of Rome.

A DISTINGUISHED commission has been investigating during the past year the subject of pellagra in the province of Rome, and has published a preliminary report in the *Policlinico*, Sezione Pratica. They find that there is a great deal of inaccuracy in the diagnosis of the disease, for of 208 notified cases they were only able to concur in the diagnosis in 46, and among these were included several doubtful cases. The disease is rare and not on the increase; it is limited to a certain few villages where it has long existed. There seems no relation between the consumption of maize and the incidence of the disease, for maize is eaten at practically every meal in all the districts investigated. Nor could the disease be connected with the bites of any insect. On the other hand, the villages where the disease occurs show marked differences in the water-supply as compared with those that are immune. Generally speaking, the province of Rome is uncommonly well supplied with water, but where the cases of pellagra occurred either the village had a bad water-supply, surface waters badly protected, or the patients were in the habit of using such waters found in the neighbourhood of their dwellings.

The General Elections.

The general elections which are to take place at the end

of this month are the absorbing interest of the hour. The introduction of the principle of manhood suffrage at this election increases the electorate from 3½ to 8½ millions. Naturally there is a good deal of doubt as to what changes in the representation of the parties in the Chamber this enormous increase of the electorate may effect. The Socialists openly state their fear of the influence of the priests on the more ignorant section of the new contingent of voters. A part of the medical press urges the profession, and especially the "medici condotti," or parish doctors, to use their undoubted influence to secure the return of candidates pledged to sanitary reforms and the consideration of the doctors' grievances. Of these, the chief is the treatment accorded to the "medici condotti," their miserable pittances, hard terms of service, and the scant consideration with which they are treated by both local and central authorities.

Antityphoid Inoculation in Tripoli.

In the *Nuova Antologia* Surgeon-General Ferraro di Cavallarleone reviews the results of antityphoid vaccination of the troops in Libya. This was initiated by himself in August, 1912, at Tripoli. Up to June, 1913, 16,191 vaccinations were made, of which 6696 were first inoculations, 5427 second, and 4068 third. The results were: among those inoculated once, 9 cases of typhoid fever with 3 deaths—i.e., 1·34 per 1000, with a mortality of 0·4 per 1000; among those inoculated twice, 9 cases with no death—i.e., 1·65 per 1000, with mortality 0; and among those inoculated three times, 0·49 per 1000, with mortality 0. During the same period the incidence of the disease among the unvaccinated in Libya was 35·3 per 1000, with a mortality of 7 per 1000.

Oct. 11th.

Obituary.

CHARLES LESTER LEONARD, M.D.,

PROFESSOR OF ROENTGENOLOGY, UNIVERSITY OF PENNSYLVANIA.

BY the death of Dr. Charles Lester Leonard, of Philadelphia, another victim is added to the list of those roentgenologists who have succumbed to the perils peculiar to their professional duties.

Dr. Leonard was born in 1861 and received his medical education at the University of Pennsylvania, where he took his M.D. degree in 1881. He became later Professor of Roentgenology there. First his hand became affected and had to be amputated. The arm followed, and this, too, was removed, but the disease did not stop but affected the entire body, so that he died on Sept. 22nd at Atlantic City, New Jersey. He was not a voluminous writer, though he contributed interesting papers on the malarial parasite to the *International Medical Magazine* and on a new method of studying cell motion to the *American Journal of the Medical Sciences*, besides several contributions to the medical journals on X ray subjects.

Dr. Reginald Morton writes: "The passing of Lester Leonard is a serious loss to medical science and in particular to radiology. Like too many other pioneers in this dangerous branch of medical work he has paid for his enthusiasm and interest with many years of patient suffering and finally with his life. His keenness for his work never wavered, even to the end, when he postponed a necessary operation that he might complete his report on the radiography of the digestive system for the Section of Radiology in the International Congress of Medicine recently held in London. Since first meeting him in London in 1904—his hands even then were seriously damaged—we have met at congresses in Toronto, Niagara, Amsterdam, and in 1907 he came to the annual meeting of the British Medical Association at Sheffield, where he gave an address on the X-ray examination of the thorax. Throughout these years it was evident that the dermatitis was becoming more extensive and certainly not less painful, but in spite of all this he was as devoted to his subject as ever, and he was at all times a genial and pleasurable companion. In the world of radiology the name of Lester Leonard will be remembered for a long time to come. His interest was not limited to any one branch more than another—he has done yeoman service in the development of every department. His constant aim was the attainment of the highest possible perfection and accuracy of his results."

Mr. Deane Butcher writes: "Radiology has to lament the loss of another of the few remaining pioneers in the person of Dr. Lester Leonard, of Philadelphia—one more victim to the Baal fire of the Roentgen rays. Dr. Leonard was for many years a familiar figure at most of the Roentgen congresses and was well known in this country as a frequent contributor to the *Archives of the Röntgen Ray*. It was due to his initiative that a Radiological Section was added to the International Congress of Medicine, and it is a touching evidence of his devotion that he delayed a necessary operation in order to finish his report on radiography of the stomach which he communicated to that section. We have lost a keen investigator, a good comrade, and a charming personality by the death of Dr. Lester Leonard."

FREDERICK ROYSTON FAIRBANK, M.D. HEIDELB., F.R.C.P. EDIN., F.S.A.,

CONSULTING SURGEON TO THE DONCASTER ROYAL INFIRMARY.

Dr. Frederick Fairbank passed away at Felixstowe, Caversham, in his seventy-third year, on Oct. 3rd. Educated at Rugby School, Manchester Medical School, and King's College, London, he qualified M.R.C.S. Eng., L.R.C.P. Lond. in 1862, and practised for a time at Lynton, then for many years at Doncaster, where he had an excellent practice. As he began to suffer from rheumatism and bronchial asthma, in 1892 he removed to St. Leonards, and later to Dorking, from which he retired (having sold his practice) about three years ago to Caversham. In 1865 he obtained the M.D. degree at Heidelberg. He had been a Fellow of the Royal Medical and Chirurgical Society since 1869. In 1874 he obtained the M.R.C.P. of Edinburgh and in 1892 the Fellowship. Among excellent contributions to professional literature was one on digitalis in the Clinical Society's Transactions, and one on some successful tarsectomies for talipes equino-varus in adults. Dr. Fairbank designed a very useful clinical note-book. In archæology he was a well-known authority, having been a Fellow of the Society of Antiquaries since 1888, and contributing much to the Associated Architectural Societies' Reports, to Memorials of Old Surrey, and having done some excavations at Roche Abbey. He was twice married, and leaves a widow and three children to mourn their loss.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. L. Jagot, professor of clinical medicine in the Angiers School of Medicine.—Dr. J. Bonet y Amigo, professor of midwifery and gynæcology in the University of Barcelona.—Dr. M. Volkoff, professor of pathology and therapeutics in the Women's Medical Institute, St. Petersburg.—Dr. Edwin W. Bartlett, formerly professor of ophthalmology and of Otology in the Medical Department of Marquette University, Milwaukee.—Dr. John G. Curtis, formerly professor of physiology in the Columbia University College of Physicians and Surgeons, New York.—Dr. James M. Blaine, professor of dermatology in the University of Colorado School of Medicine, Denver.

DONATIONS AND BEQUESTS.—The late Miss Anna Jane Arden has bequeathed the whole of her estate, amounting to £67,000, equally between the following institutions: St. George's Hospital, London; St. Thomas's Hospital, London; St. Mary's Hospital, Paddington; the Children's Hospital, Great Ormond-street; the Hospital for Incurables, Putney; the Hospital for the Paralysed and Epileptic, Queen-square; the Brompton Hospital for Consumption; the Deaf and Dumb Asylum, Margate; the London Surgical Aid Society; and five other charities.—Among other bequests the late Mrs. Anne Sutton, of Burton-road, Derby, has left £3000 to the Derbyshire Royal Infirmary, £500 to the Derbyshire Hospital for Sick Children, £500 to the Royal Institution for the Deaf and Dumb, Derby, and £500 to the Queen Victoria Home of Rest, Derby.—The Master of the Heythrop Hunt has sent a second donation of £500 to the Banbury Infirmary.—The Midland Railway Company has forwarded a cheque for 200 guineas to the Cumberland Infirmary, Carlisle, in recognition of assistance rendered on the occasion of the Aisgill accident.

Correspondence.

"Audi alteram partem."

EXAMINATIONS, EXAMINERS, AND EXAMINEES.

To the Editor of THE LANCET.

SIR,—Sir William Osler would probably be surprised, perhaps even disappointed, if his thoughtful and trenchant address were meekly swallowed, like a dose of medicine, without remonstrance. I agree with much that he says, but not with his suggestion that English surgery would be stimulated if the Council of the Royal College of Surgeons of England were to select for the Fellowship each year 15 or 20 of the men under 30 who had distinguished themselves most highly in surgical research. Research is becoming a greater fetish than the examination test. To practise research is not the only way to become a good surgeon. A great many excellent surgeons are not fitted for what is known nowadays as research, and much of what I should call research would not be recognised as such by the censors. It is common to hear of heart-burning and bitter disappointment amongst those who aspire to be Fellows of the Royal College of Physicians and Fellows of the Royal Society—some of them "Olympic athletes" and "picked steeplechasers of our stables," much more worthy of those titles than many of the candidates for the Primary Examination for the Fellowship.

I should like Sir William Osler to devote an afternoon to listening to this examination. I think he would be convinced that many of these athletes are imperfectly trained, if they are not, as I believe is often the case, merely having a sporting shot at the examination. The questions, in anatomy at all events, are simple and straightforward; the ignorance of rudimentary facts is often deplorable. I cannot estimate so well the questions and answers in physiology. It would be interesting to hear Sir William's judgment upon them.

I do not say that the condition of things is quite satisfactory, or that the standard might not with advantage be to some extent relaxed, or that our system is above criticism; but I do maintain that the method of admission by examination is preferable to the suggested alternative. It must be remembered that the Fellowship is not a necessity, that it is the most highly prized British surgical distinction, and that it is supposed to show, and does show, that those who obtain it are not only able to pass a severe test, but have had a special training in anatomy, physiology, pathology, and surgery. It might be well if the number of Fellows were somewhat larger, but not if it involved the inclusion in their ranks of such "steeplechasers" as do not recognise the ligaments of the ankle-joint or the corpus callosum when they see them.

With regard to the general question of why students are ploughed in such appalling numbers at most medical examinations, I believe the reason is to be found in the system of demonstrations and cram classes which has grown to such inordinate proportions during the last 40 years and which leaves the students no time for thought. This is due to the feverish competition amongst the schools, and as long as they retain their present constitutions it is difficult to suggest a practical remedy. Those put forward by Sir William Osler will no doubt obtain the very serious consideration which they deserve. Let it not be forgotten, however, in thinking out the problem, that the students are not passed through a very fine sieve on entering upon their career, that many of them drop out for other reasons than failing at examinations, and that, after all, the proportion of those who begin medical studies and fail to qualify is, as nearly as can be ascertained, not more than 25 to 30 per cent. I am, Sir, yours faithfully,

Wimpole-street, W., Oct. 15th, 1913. RICKMAN J. GODLEE.

NATIONAL INSURANCE ACT: THE DIFFICULTY OF CERTIFICATES.

To the Editor of THE LANCET.

SIR,—I have replied to the National Health Insurance Commission (England) in response to the receipt of a Memo. 173/I.C., concerning medical certificates, as follows:—

"Having carefully read and considered the above memo. and three enclosed certificate forms, while wishing for uniformity in the matter of certificates, I have formed the conclusion that to attempt to bind the doctors down to a hard-and-fast rule as regards the dating of these, as is proposed in Sec. 10, par. 3, will be impossible without inflicting great hardship on the doctors, and adding a fresh duty—one entirely clerical—to his already onerous duties in the busy time of the year."

I pointed out also to the Insurance Commission, and should like to bring the matter before your readers, that most, if not all, of the Approved Societies require medical certificates to be signed every week during illness and on one particular day, not the same day in every instance, but each seventh day from the commencement of the illness. If the certificate is dated, say, on the day before the exact week end—i.e., on the sixth day—the pay for the missing day is deducted from the weekly amount due. In the case of patients attending at the surgery the patient generally arranges to make one of his calls on the day his certificate requires signing. But in the case of those who have to be visited at their own homes, this certificate signing on one particular day and no other each week is a great hardship to the medical man, who must go to his patient's house—which may not be quite near—whether the case requires a professional visit or not, on that particular day, simply to perform a clerical duty. If he fails to do so, his patient will lose his pay for that week. If he is at the patient's house the day before or the day after the exact date, he cannot sign the certificate. When these cases are multiplied in the busy season and during the winter months, greater inconvenience and increase of labour will be involved.

In order to avoid this I have brought before the Insurance Commission the question of antedating and postdating certificates, suggesting that such action should be left to the discretion of the doctor. I suggest, first, that the words "to-day" in "I have to-day examined," &c., which appear in all three certificate forms, be deleted; and, secondly, that the words, "but certificates should not in any circumstances be antedated or postdated," be withdrawn.

I am, Sir, yours faithfully,

W. W. HARDWICKE, M.D. St. And.

Carlyle-square, S.W., Oct. 12th, 1913.

NATIONAL INSURANCE ACT: MEDICAL REFEREES AND MALINGERING.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Oct. 11th Mr. Albert Benthall writes: "It is one of the settled ethical laws which govern the profession that, knowingly, no medical man shall examine the patient of another medical man except in consultation or after having first obtained his consent," and he then proceeds to argue that medical referees appointed by Local Insurance Committees to check malingering will be obliged to conform to the above rule in the examination of cases referred to them.

I would like to point out that so far as I am aware no such rule exists. It is not to be found in the rules laid down for their diplomates by the various licensing bodies, while the Birmingham and District General Medical Practitioners' Union, which goes farther than any other body in endeavouring to secure the interests of general practitioners, formulates no such rule. The position of a medical referee is not new, nor are the difficulties connected with it unfamiliar, but it is certain that he cannot be trammelled in the execution of his duty by a rule which would make it impossible for him to examine the case in the absence of the usual medical attendant or from the latter's refusal to give his consent to the examination. I am, Sir, yours faithfully,

Birmingham, Oct. 13th, 1913. ROBERT SAUNDBY.

LONDON MEDICAL COMMITTEE.

To the Editor of THE LANCET.

SIR,—With your permission I would draw the attention of the non-panel section of the profession in London to the efforts of the London Medical Committee (an entirely non-panel body) in promoting the formation of non-panel associations in the county of London. There are already three of these associations in existence—at Hampstead, Wandsworth, and Lewisham, and others are in the course of formation.

It is of extreme importance that non-panel men should keep actively in touch with each other and prepare by combination to meet the increasing attacks upon their interests. The British Medical Association has shown that the non-panel man can expect little assistance from the Association, and it is only through a body formed exclusively of non-panel men that he can obtain prominence for his views and any chance of being heard. It therefore behoves every man who has no intention of working under the panel system to become a member of the non-panel association in his division, and if such an association has not yet been formed in his division to make endeavours to start one.

I shall be glad to receive any communications addressed to me at 45, Welbeck-street, W., and give any information in my power.—I am, Sir, yours faithfully,

E. ARTHUR DORRELL,
Honorary Secretary, London Medical Committee.

Oct. 11th, 1913.

NATIONAL INSURANCE ACT: TITHERINGTON *v.* DUNLOP.

To the Editor of THE LANCET.

SIR,—The recent decision of the Liverpool county court judge in the case of Titherington *v.* Dunlop that the contract of service is between the panel patient and the doctor is, I submit, open to question. If this decision is allowed to stand I can easily foresee that a great deal of trouble is likely to arise between patients and doctors. In future any panel patient with a real or fancied grievance need not approach the Local Insurance Committee, but he can at once serve a writ upon his doctor, and thus pave the way for a species of blackmail.

In these circumstances it seems to me imperative that the result of this case ought to be appealed against, and that panel doctors as a whole should combine to make this possible by subscribing to a fund to defray the cost, as the respondent cannot be expected—even if he were willing—to fight a battle which affects the whole of the panel practitioners. Personally I shall be glad to aid in every possible way—pecuniarily and otherwise.

I am, Sir, yours faithfully,

Liverpool, Oct. 7th. FINSON.

THE PATHOLOGY OF THE CONDITION KNOWN AS PARASYPHILIS.

To the Editor of THE LANCET.

SIR,—It must be a matter of deep gratification to us to find that our pathological conclusions lead to the same practical end as the observations of a physician so widely experienced as Dr. F. J. Smith. Since Dr. Smith invites us to consider a particular case we will endeavour to do so.

This patient was first seen by Dr. Smith in 1895, and had contracted syphilis "in the year of the Paris Exhibition," presumably that held in 1889. Thus six years after infection he had cerebral symptoms of sudden onset which entirely receded before mercury and iodide in three months; clearly a vascular condition. Two years later—that is, eight years after infection—he had an acute cerebral attack with delusions, which also rapidly subsided under antisyphilitic treatment, although slight remnants of nerve injury persisted for a few years.

Dr. Smith considers that it is anomalous to refuse the name of "early general paralysis" for this condition, and certainly it is on the borderline between "early encephalitis" and "dementia paralytica." In our opinion, it illustrates the contention we put forward—namely, that there is no essential pathological distinction between the two lesions, and this was no doubt one of the transitional forms. Personally, however, we would withhold the name "general paralysis," because this expression conveys to our mind a series of clinical manifestations which end in death. Our impression may be incorrect, but it is nevertheless one which is popularly prevalent. This patient, however, was completely cured. In order to illustrate what we take to be the pathology of such a case, we will reduce the argument to a state of simplicity which is probably unjustifiable. The toxicity of a microbe is not an absolute quantity, but is an expression of its effect upon the infected host. Thus a microbe may be highly toxic to one animal and yet non-toxic to another of a different species. Further the apparent toxicity of the microbe may vary in animals of the same species. It is not so much that in one case the virulence is "exalted" while in the other it is depressed, but that the *susceptibility of the two animals is different.* We will go one step further in the argument and point out that the toxicity of one and the same microbe may vary in one and the same host at different times. This is almost certainly not due to any alteration in the virulence of the microbe, but to an alteration in the susceptibility of the patient. This phenomenon is well illustrated in syphilis. The primary chancre is the expression of the local susceptibility of a normal person to S. pallida. It is a reaction which measures, for instance, $\frac{1}{2}$ inch. The secondary rash is a series of local reactions, each of which is much smaller because the local susceptibility has been diminished. In fact, the rash may be trivial and the patient feel quite well, although he has nevertheless many spirochætæ in his system. Thus it may be said that there is very little toxicity in S. pallida unless the tissues are susceptible to its toxic action. At this stage the immunity mechanism comes into operation and slowly develops a protective state, so that in the tertiary stage the cells are, as it were, on the *qui vive* to an excessive extent. They will immediately burst into operation (react) on the appearance of the smallest number of spirochætæ. The cells may be described as being hypersusceptible to the spirochæta, and, conversely, the spirochæta as hypertoxic to the cells. In this stage, therefore, a minimal number of microbes will produce a maximal lesion. If the site of exacerbation of the spirochætæ is the lymph vascular tissues, a "gummatous" reaction will result; if they are situated among parenchymatous cells, a parenchymatous reaction follows. The parenchyma cell, however, differs from an interstitial cell in being particularly "delicate." If it receives an injury of a certain intensity it fails to recover and degenerates. A condition then results which has been called "a primary degeneration" and "a diffuse fibrosis" (brain G.P.I., testicle, liver, &c.). The practical effect is an irreparable loss of function.

Thus "general paralysis" is a condition due to a small number of spirochætæ acting upon hypersusceptible nerve cells. The injury is so rapid that the diagnosis could never be made early enough to counteract it before the limit of tolerance had been reached in the cell. In an early secondary encephalitis, however, the cells are very little susceptible, and although the spirochætæ are here more numerous, a long interval of time is available in which to apply treatment before the cells are materially injured. If treatment is not applied, the case will drift into a condition which for practical purposes resembles general paralysis. Dr. Smith's case, we imagine, occurring eight years after infection, was in a condition of medium susceptibility: he was on the high road to becoming a "general paralytic," but the process was sufficiently slow to allow Dr. Smith to intervene successfully; only a few cells were beyond repair, and these apparently of little significance. The danger of these cases lies in the probability that their nature will not be recognised, and by the time the diagnosis is decided upon the destruction has exceeded the limit of repair. In this particular instance Dr. Smith suspected typhoid fever, but since he holds that a patient suspected of having had syphilis and suffering from any disease should receive antisyphilitic treatment, he immediately ordered mercurial inunctions, and thus possibly saved the man's life. We should say that the patient would have developed "general paralysis," but that he was not a "general paralytic" at the time. A name for the clinical condition we do not suggest: it was a syphilitic encephalitis. The only essential of practical importance is that, in Dr. Smith's own words of seven years ago, "in all such cases mercury should be very freely and promptly administered." At the present

time this recommendation should apply to salvarsan, since there can be no controversy over the relative merits of the two drugs.

Finally, so far as our own investigations are concerned, we must admit that Dr. Smith is correct in the tentative conclusion contained in his final paragraph. We think that it is essential to apply treatment at once without waiting for the Wassermann reaction; firstly, for the reason that valuable time must not be wasted, and secondly, because the treatment will not affect the result of the reaction within any reasonable number of days. It should be applied after treatment has begun. The great merit of the test is not only that it greatly assists in an accurate diagnosis and is almost essential to a prognosis, but it establishes the nature of a case conclusively, although there might be no suspicion of syphilis, and thus permits of a much more thorough treatment than would be applied if the case were left in obscurity.

We are, Sir, yours faithfully,

JAMES MCINTOSH,
PAUL FILDES.

London Hospital, Oct. 13th, 1913.

THE MEDICAL MISSIONS OF THE SOCIETY FOR THE PROPAGATION OF THE GOSPEL.

To the Editor of THE LANCET.

SIR,—I wish to make known some openings for junior members of the medical profession which, putting aside other aspects of the work, provide a variety of cases and scope for the performance of important operations greater than commonly fall to the lot of general practitioners in this country. In the majority of these places there can be also the inspiring reflection that there is no other qualified doctor within many miles to whom the patients could possibly apply for the treatment they need. The salaries, except in the case of Rusapi in Mashonaland, where there is a Government guarantee of £300, besides private practice, are small, but sufficient for comfortable maintenance of unmarried doctors, being the same both for men and women as those offered to the clergy working under similar conditions on the S.P.G. Missions in connexion with which these posts are.

The doctors must be in full sympathy with mission work, but will not be required to do any but their professional work, unless they desire it themselves. The vacancies are: for men (1) Hazaribagh, Behar, India; (2) Rusapi, Mashonaland; (3) Kwamagwaza, Zululand; for women, (1) Ping Yin, North China; (2) Delhi, India; (3) Malacca. In all these places the hospitals are in full working order. Several more men are wanted for China and three women for India, but we cannot send them at present owing to lack of funds. Our men never enter into competition with private practitioners or with those working in Government posts. We appeal to members of the medical profession who are in sympathy with the efforts which the Society for the Propagation of the Gospel is now making to meet the great need for medical aid in places otherwise unprovided for, to help us by bringing these vacancies to the notice of some who seem suited to fill them. I shall be glad to answer fully any inquiries made from me about these posts and the needs and plans of this department of the S.P.G.

K. W. S. KENNEDY, M.B.,
Secretary, Medical Department, S.P.G.

Westminster, Oct. 14th, 1913.

OUR SYSTEM OF MEDICAL TRAINING.

To the Editor of THE LANCET.

SIR,—With your permission I should like to express my grateful thanks to Sir William Osler for his address at the St. George's Hospital Medical School and humbly to express my opinion that it is one of the finest of the many services which he has rendered to the profession.

I am sure that from his pronounced intention of improving the profession he will not object to some of his statements being supplemented by an opinion which is held by many that the "passed" men are, metaphorically speaking, mentally and professionally dead for some time after their success. Some recover their old brilliance, but a very large percentage is permanently damaged by the training.

The rejected men must of necessity go to swell the ranks of the "unemployables."

This opinion is not a whit too severe when we consider the results of the treatment of the "*flower of the young intellect*" of this country. He does not touch upon the public aspect of the present system of training, in particular with its relation to clinical medicine. Students and teachers alike receive their clinical training from observations upon the "submerged tenth." Now, 50 per cent. of the passed men will enter general practice and try to be useful to the respectable working and middle classes, from whom alone it is possible to expect a living wage. It is obvious that the "system" places upon the community a mass of men clinically untrained for the duties they have to perform.

The most serious and tangible indictment of the "system" is the mass of literature we (one and all) daily receive relative to proprietary drugs and methods of treatment of disease. All the literature comes from commercial people outside the profession who would not send it and incur great expense unless there were an adequate return. I often wonder how the profession as a whole can tolerate this daily insult. It does not redound to the credit either of teachers or examiners, and emphatically not to the Council for Medical Education.

The desire to see professional training of such a nature as to make the profession a part of each man who practises it is my apology for trespassing upon your space.

I am, Sir, yours faithfully,
R. CRAWSHAW HOLT.

Manchester, Oct. 13th, 1913.

THE BOUNDARY LINE.

To the Editor of THE LANCET.

SIR,—May I ask you to publish an objection to a custom which appears to be growing in some quarters of the profession? I refer to a habit which a class of consultant indulges in, of sending broadcast to general practitioners copies of lectures which he has given upon medical subjects. When I receive from a consultant with whom I have had professional relations a paper of his I value it and read it with attention, but when I receive a pamphlet from a gentleman whom I do not know I regard it as a tradesman's circular and treat it as such.

To-day I have received yet another of these, with, in addition, a slip informing me that the writer is "specially interested" in certain disorders, and would be glad to have details of cases from me. I do not know the author, I have never heard of him, and therefore he may be, for anything I can tell to the contrary, a master of his specialty, but as I am never likely to feel myself desirous of testing the point by inviting him in consultation, I am not sufficiently interested in his achievements to undergo the fatigue of reading about them.

Of course, he may have included my name in the list of those to be favoured with his pamphlet by error. Yet these errors are of such frequent occurrence that although I am eager to believe such explanations, for the dignity of the profession, yet I have had, very often, great difficulty in doing so. Indeed, if the custom continues I shall find myself forced to regard it as nothing more than a vulgar device for advertising the authors. I hope these gentlemen will not drive me and my fellow practitioners to this extremity. I enclose the "trade circular" in question.

I am, Sir, yours faithfully,
C. WILLETT CUNNINGTON.

Church End, Finchley, N., Oct. 11th, 1913.

AN INVESTIGATION INTO INDUSTRIAL INSURANCE.

To the Editor of THE LANCET.

SIR,—The Fabian Research Department, in compliance with numerous requests, has started a detailed investigation of the various forms of industrial insurance, beginning with the working of the National Health Insurance Act. The investigation will have for its sole purpose to discover what actually is the effect of the Act, and in what way its operation can be improved. Will you permit me to invite insured persons, doctors, nurses, members of Insurance Committees, and workers in any way connected with Friendly Societies—such as sick visitors, agents, secretaries, branch secretaries, &c.—to contribute facts or other information which they think would be of service?

We should, for example, be very pleased to receive copies of the minutes and regulations of Insurance Committees;

particulars of societies' admission or refusal; expulsion or transfer of members, or refusal of permission to transfer; adequacy or inadequacy of medical treatment; success and failure of the sanatorium benefit; medical attendance available for persons leaving home or away from home; the working of the maternity benefit; and so on. We want to hear of every example of satisfaction or success, as well as of every grievance or failure, and to explore all the results that can be yet traced. For this we can rely only on the kind coöperation of the press and the public.

I am, Sir, yours faithfully,

SIDNEY WEBB.

Fabian Society Research Department, 37, Norfolk-street, Strand, W.C., Oct. 10th, 1913.

WILLIAM LANGLEY MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—I should feel much obliged if through the columns of THE LANCET you could make it known that subscriptions to the above fund received by my bankers, Sir Charles R. McGrigor and Co., 25, Charles-street, St. James's, S.W., will be transferred to the committee at Lagos, Southern Nigeria.

I am, Sir, yours faithfully,

J. P. FAGAN.

Scarsdale-villas, Kensington, W., Oct. 10th, 1913.

SNAKE STONES.

To the Editor of THE LANCET.

SIR,—In an account of "An Irish-American Talisman" on p. 506 of THE LANCET for August 16th last mention is made of "snake stones." Perhaps a description of some which I have seen may interest your readers. The two "stones" which I have seen measure about three-quarters of an inch by about two-thirds of an inch—one being roughly triangular, the other more oval. They are about a quarter of an inch in thickness, one side being flat and the other rounded, and are both of a colour as black as jet—a substance which in consistence they somewhat resemble. They are certainly not at all like any ordinary stone. I have seen four cases of "snake-bite" treated with these stones. In no case did the patient appear to me to suffer from any symptom but fright, but they were all put down as cures. In two of the cases I think possibly the people had been bitten by non-poisonous snakes. In the other two I think the snakes only existed in the sufferers' imagination.

The owner of the stones is a Babu man, and must have a considerable practice, for he is said to have refused as much as 1000 rupees for one stone. The method of cure is as follows. One or both stones are applied in the neighbourhood of the wound. They adhere to the skin for some time, and when they fall off they are put for a short time into milk, by which means the poison is said to be extracted. They are then reapplied to the skin, and this process is repeated until they refuse to stick to the skin. This Babu says he got the stones from a fakir. In this part of the world "snake stones" are said to be found "on the hills," and I have heard them described by natives as the solidified saliva of the markhoy—a species of wild goat. The name markhoy means snake-eater, as the animal is popularly supposed to kill and eat snakes, and its saliva is a reputed antidote to snake venom.

A description which appeared in the *Field* in the spring of last year of a hair-ball found in the stomach of a chamois bears a striking resemblance to these "snake-stones." It appears to me quite possible that, when all remains of an animal whose stomach had contained a hair-ball had been removed by birds and beasts of prey, the hair-ball might remain to be picked up "on the hills."

I enclose a photograph of the "stones. The third, smaller and rounder, is in appearance made of the same substance as the others, but is used in cases of scorpion sting.

I am, Sir, yours faithfully,

LOUIS H. L. MACKENZIE, Captain, I.M.S.

Dera Ismail Khan, Sept. 13th, 1913.

*** Previous references to snake-stones will be found in THE LANCET of May 11th, 1867, p. 576, Jan. 31st, 1903, p. 343, and Nov. 13th, 1909, p. 1478.—ED. L.

SHIP'S SURGEONS.

To the Editor of THE LANCET.

SIR,—May I add my experience and advice to that already offered by others to those of our profession who contemplate applying for appointments in the above capacity?

It is a fact that the shipping companies at the present time are experiencing the greatest difficulty in obtaining surgeons for their vessels, and although no one would desire to take undue advantage of their embarrassment, it is nevertheless a favourable and unique opportunity for establishing a fair rate of remuneration and for insisting on reasonable accommodation and comfort. For instance, the leading Company trading to the East, the Peninsular and Oriental, has recently been paying £20 a month to surgeons, instead of its usual fee of £10 a month. This is a big advance, but it cannot be considered an exorbitant one when one considers that the same company pays its chief engineers £30 and over, chief officers £20 and over, pursers and chief stewards £16 and over, and chief cooks £12. On joining the company to which I am attached I was officially assured that in addition to my pay of £10 per month I should earn in fees from passengers at least another £180 per annum, bringing my remuneration up to £300 per annum. This I have found to be ridiculously and unwarrantably exaggerated. During the last three months, all spent on mail steamers, I have received £3 10*s.* in fees from passengers.

May I therefore tender the following advice to those about to join as ship's surgeons: 1. To decline any appointment for which the remuneration is less than £20 per month, even in those companies where fees are allowed to be charged in addition to pay. 2. To obtain in writing an undertaking that "outside" accommodation will be provided—that is, an outside cabin with a porthole. Only those who have experienced them can realise the horrors of endeavouring to sleep in an inside cabin in the tropics. 3. To insist on the cabin being fitted with an electric fan. Most companies provide these as a matter of course and ordinary comfort, but there are others that do not do so without a previous understanding and arrangement; the P. and O. Company is an instance of the latter. I enclose my card.

I am, Sir, yours faithfully,

A.B.

Sept. 23rd, 1912.

THE MEDICAL PROFESSION AND THE LAYMAN.

To the Editor of THE LANCET.

SIR,—In a leading article on Oct. 4th you speak hopefully of the future of medical practice. Certainly the incomes of practitioners have not progressed in any way whatever commensurate with the improvement of their equipment. It may be the truth that there are more laymen now who appreciate the circumstances of a medical man's life than was the case not very long ago. Laymen in whose hands there may lie voting power with regard to medical appointments are coming to understand that the majority of the candidates before them will have spent £1000, and more, in the acquisition of the grammar of their calling, and that this unpaid apprenticeship will have lasted in the majority of cases at least six years. A large amount of bitterness was created between the medical profession and the public while the National Insurance Act was muddling its way through Parliament. It was completely impossible that the medical profession should acquiesce in the original proposals, but the medical position was not fortunately placed before the public either by themselves or by the political newspapers which approved their action, or by the supporters of the Bill in its original form who resented all medical protest. Time after time medical men were told that the medical profession was merely "out for money," and it is undoubted that a certain amount of harm was done to us as a body in consequence of the oft-repeated calumny. Now, however, the public is rapidly perceiving that what the medical profession said about the Insurance Act was very right; but before the medical profession as a calling becomes popular, time will have to elapse in my opinion.

I am, Sir, yours faithfully,

PARENT AND TEACHER.

Oct. 6th, 1913.

THE NATIONAL INSURANCE ACT.

THE ALLOCATION OF INSURED PERSONS.

IN a letter to the *Times* Dr. Major Greenwood has pointed out that the difficulty with regard to the distribution of surplus funds has not arisen in those places (as in the Manchester district) where payment for medical attendance is made according to the work done and not under the capitation system. In other words, the money allotted to medical attendance has there gone without question, and without any of it being withheld, to those for whose remuneration it was intended. With regard to the comparative merits of the two systems interesting information will be found in the letter of Dr. H. H. Mills published in THE LANCET of Oct. 11th, 1913, p. 1094. It is there suggested that the system of payment by work done, which the majority of the medical profession has advocated, has its drawbacks in practice for which allowance must be made, in the tendency which it has to encourage unnecessary attendances being made, and in the consequent drain upon the funds at the disposal of the committees. In considering the comparative merits of the two systems full weight must be given to the fact that payment by attendance gets rid of the difficulty arising from insured persons not selecting their medical advisers, and brings into play to the full the principle of insurance by which the contributions of those not needing the aid provided help to defray the cost incurred for the relief of those less fortunate. It must not, however, be forgotten that the surplus funds to which the opinion of Mr. Danckwerts referred have not arisen only through the failure of a large number of persons insured under the Act to select their medical attendants. They have arisen through this combined with the fact that the distribution of such patients to medical men upon the panel (for which provision is made by the Act) has not taken place. Various causes have no doubt contributed to bring this about, but the accumulation of such funds will no doubt be avoided wholly or almost wholly as time goes on, and the Insurance Commissioners or Parliament will deal with the question of moneys accumulated in a manner not foreseen when the Act was passed, through the combination of circumstances referred to.

FRIENDLY SOCIETIES AND "CONTROL OF THE DOCTORS."

At a conference of Oddfellows representing the counties of Cheshire, Shropshire, and Staffordshire held at New Brighton recently the National Insurance Act and its effects upon the Friendly Societies were discussed, and the operation of the Act in placing medical benefit under the control of the Insurance Committees was, of course, vigorously denounced. The cause of complaint was, as usual, the depletion of the funds of the societies through the amounts paid out in sickness benefits. According to a speaker, "they had lost control of the doctors, and if the lodges fancied they detected cases of malingering they were powerless. If the panel doctor was approached he would possibly tell them to mind their own business, and if they reported the matter to the District Insurance Committee they would quickly discover that they could get no assistance from that quarter." To demand the right to control the medical officer was described as seeking "the restoration of their stolen goods," and altogether there was some large talk. This does not produce the effect upon the medical profession which is intended, for all practitioners are aware that the managers of Friendly Societies do not complain because their members are having too much medical attendance, but are merely incensed because it is not provided at the club price and subject to club "control."

TO WHOM IS THE MEDICAL MAN ON THE PANEL RESPONSIBLE?—TITHERINGTON *v.* DUNLOP.

In the Liverpool county court recently G. Titherington, a minor suing through his father, claimed from J. Dunlop £2 6*s.* for expenses incurred in obtaining the services of another medical man, owing to the defendant having refused or failed to attend the plaintiff, who was a patient on his list under the Act. The dispute has, we believe, been referred to in the House of Commons. Charges were made on both sides of a contradictory character, the defendant alleging that he was prevented by the pressure of his work from attending his patient when desired to do so by the relatives, and the plaintiff's witnesses complaining of the defendant's manner towards them, as well as of his non-compliance with their request for his attendance. As to the merits of these issues the finding of the judge was in the plaintiff's favour, judgment being given for the sum claimed with costs, accompanied by an expression of opinion that the defendant had given way to temper. Leave, however, was given to appeal upon a point of law raised without success on behalf of the defendant, whose counsel contended that Section 67, Subsection 2, of the Insurance Act applied, so as to exclude the jurisdiction of the county court. The subsection referred to is as follows: "2. Every dispute between an insured person and the Insurance Committee relating to anything done or omitted by such person or the Insurance Committee under this part of this Act, or any regulation made hereunder, shall be decided in the prescribed manner by the Insurance Commissioners." The matter is one of importance to medical men on the panel, many of whom would no doubt prefer trifling or vexatious disputes between them and their patients to be decided without recourse to courts of law, while it is also a matter to be considered that reluctance to set the law in motion in support of a bad case may operate to protect medical men on the panel to some extent against frivolous attacks, which might more easily be made in the form of a complaint to an Insurance Committee. In view of an appeal possibly taking place the applicability of the subsection and the scope claimed for it are not discussed here; but it is to be hoped that if the divisional court decides in the defendant's favour a pronouncement will be made as to precisely what kind of claims are excluded from the ordinary legal remedy, and whether claims for alleged negligent treatment are on the same footing as those based upon the medical man's failure to attend. If the result of an appeal should be against the construction which the defendant in the case referred to has sought to place upon Section 67, Subsection 2, the medical profession will have to consider whether it should press for an amendment of the Act which will enable all alleged shortcomings of practitioners under the Act to be dealt with by Insurance Committees, to the exclusion of other tribunals. It must be remembered, however, that any inquiry so held will necessitate the calling of witnesses on both sides, just as much as if the investigation were before a court of law, and the question of whether their evidence should be taken on oath must also be considered. It must also be remembered that in the case under discussion damages were claimed and awarded.

THE STATISTICS OF INSURANCE IN SCOTLAND.

In Scotland the total number of insured persons made up to April 9th was 1,492,527, of whom 1,462,509 were members of Approved Societies, 30,016 were deposit contributors, and 2 belonged to the Navy and Army Insurance Fund. Of those belonging to Approved Societies 616,738 were in the areas of County Insurance Committees and 845,771 in the areas of Burgh Insurance Committees, the corresponding figures for deposit contributors being 13,605 and 16,411.

CHELSEA CLINICAL SOCIETY.—The opening meeting of the seventeenth session of this society will be held on Tuesday, Oct. 21st, at St. George's Hospital, in the club-rooms of the medical school, at 8 30 P.M., the President, Dr. T. B. Hyslop, in the chair. Dr. Hyslop will give an opening address, and has chosen as his subject "Clinical Psychiatry." Dr. Kenneth E. Eckenstein, 8, Bentinck-street, W., and Dr. J. Campbell McClure, 41, Welbeck-street, W., are the honorary secretaries of the society.

THE SLAUGHTER-HOUSES OF CHARD (SOMERSET).—At the last meeting of the Chard town council the medical officer of health, Mr. W. Mence, reported that he had inspected the slaughter-houses of the town, and he found them in a fairly dirty condition. The premises were dirty, and the bins and receptacles which contained the offal, intestines, &c., were full of decaying animal matter and covered with flies. The medical officer desired the council, before the licences were renewed, to request the owners to carry out certain alterations. After some discussion it was decided to carry out Mr. Mence's recommendations forthwith.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy held on Oct. 9th the following candidates were approved:—

Ewart Gordon Anderson, New Zealand and London Hospital; Wilfrid Andrew, King's College Hospital; Charles Sydney Archer, London Hospital and Sheffield University; Charles James Longworth Blair, St. Bartholomew's Hospital; Paulin Roger Chevreau, Guy's Hospital; Antonio Mario Clement, St. Thomas's Hospital; Gideon Robert Ernest Colquhoun, Cambridge University and St. George's Hospital; Albert John Drew, Guy's Hospital; Alexander Percival Green, University College Hospital; James Alfred Gregory, Manchester University; Dorothy Muriel Henty, London School of Medicine for Women; John Anderson Hill, London Hospital; John Hope and Frank Bernard Jago, Manchester University; Geoffrey Leo Lawlor, St. Mary's Hospital; John Macadam, St. Bartholomew's Hospital; Walter Frank Matthews, King's College Hospital; William Morris, London Hospital; Charles Franklin Pedley, B.A. Cantab., Cambridge University and Guy's Hospital; Alfred Peine, Birmingham University; Hugh Ley Peregrine, Guy's Hospital; Philip Hugh Rawson, London Hospital; Adrian St. Johnston, Cambridge University and St. Thomas's Hospital; Henry Christmas Samuel, Ceylon University and Middlesex Hospital; Arthur Edward Schokman, Ceylon University and London Hospital; Abdel-Khalek Selim, Guy's Hospital; John Walter Graham Steell, M.A. Oxon., Oxford and Manchester Universities; Eric Lionel Stephenson, London Hospital; David Stewart, Manchester University and private study; Graham Arthur Osborne White, University College, Cardiff; and Stanley Murray Wilcox, Cambridge University and St. George's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of the Council of the College on Oct. 9th the undermentioned diplomas were conferred upon the following candidates, who have now complied with the respective by-laws:—

F.R.C.S.—Thomas Edwin Hammond, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; and Henry Linnington Martyn, M.B., B.S. Lond., M.R.C.S., L.R.C.P., King's College Hospital.

M.R.C.S.—Arthur Norman Hooper, Cambridge and Birmingham Universities; Margaret Clare Murphy, M.B. Calcutta, Calcutta University; Jagannath Vishnu Shirgaokar, L.M.S. Bombay, Bombay University, Middlesex and Charing Cross Hospitals.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. K. H. Bouman has been recognised as *privat-docent* of Neurology and Psychiatry.—*Berlin:* Dr. Loehlein, of Leipsic, has been appointed Prosector of the Charlottenburg Hospital and Director of the Bacteriological Department.—*Bonn:* The chair of Hygiene vacated by Professor Kruse's migration to Leipsic not being filled, the lectures during the first half of the winter session will be given by Dr. Hugo Selter.—*Bordeaux:* Dr. Régis, adjunct professor, has been promoted to the new chair of Mental Disorders; Dr. Moure, adjunct professor, has been promoted to the new chair of Oto-rhino-laryngology.—*Boston (Harvard University):* Dr. Charles A. Porter and Dr. Edward H. Nichols have been appointed Professors of Surgery.—*Catania:* Dr. Antonio Fagioli has been recognised as *priat-docent* of Internal Pathology and Dr. Vincenzo Fisichella as *privat-docent* of Dermatology and Syphiligraphy.—*Düsseldorf:* Dr. Gustav Molineus has been appointed Lecturer on Surgery and Orthopædics.—*Florence:* Dr. Agostino Bruno, of Pisa, has been recognised as *privat-docent* of Internal Pathology.—*Genoa:* Dr. Marco Sciallero has been recognised as *privat-docent* of Internal Pathology.—*Gratz:* Dr. J. Buchtala has been recognised as *privat-docent* of Medical Chemistry.—*Innsbruck:* Dr. F. von Herrenswand has been recognised as *privat-docent* of Ophthalmology.—*Kiel:* Dr. M. Brandes has been recognised as *privat-docent* of Surgery.—*Mobile (Alabama School of Medicine):* Dr. Andrew H. Ryan, of Pittsburg, has been appointed Professor of Physiology.—*Naples:* Dr. Benedetto Romano has been recognised as *privat-docent* of Surgical Anatomy and Operations; Dr. Tommaso Carpentieri as *privat-docent* of Internal Pathology; Dr. Salvatore Cappellani as *privat-docent* of Midwifery and Gynæcology; Dr. Giulio Palumbo as *privat-docent* of Medical Semiology.—*Palermo:* Dr. Salvatore Ceraulo has been recognised as *privat-docent* of Internal Pathology.—*Parma:* Dr. Domenico Brentana has been recognised as *privat-docent* of Police Sanitation.—*Pavia:* Dr. Giovanni Aperlo has been recognised as *privat-docent* of External Pathology, and Dr. Vincenzo Beduschi, of Sienna, as *privat-docent* of Neurology and Psychiatry.—*Pisa:* Dr. Gastone Gheradi has been recognised as *privat-docent* of Hygiene.—*Prague (German University):* Dr. O. Adler has been recognised as *privat-docent* of Medicine.—*Rome:* Dr. Tommaso Pontano has been recognised as *privat-docent* of Internal Pathology, Dr. Angelo Piazza as *privat-docent* of Neurology and Psychiatry, Dr. Raffaello Giani as *privat-docent* of Surgery and Operative Medicine, Dr. Filippo Speciale-Cirincione as *privat-docent* of Ophthalmology, and Dr. Guglielmo Bilancioni as *privat-docent* of Otology and Laryngology.—*San Francisco (Leland Stanford University):* Dr. Wilfred H. Manwaring has been appointed Professor of Bacteriology, in succession to Dr. Zinsser.—*Sienna:* Dr. Cesare Sacerdotti, of Cagliari, has been appointed to the chair of General Pathology. Dr. Andrea Corsini has been recognised as *privat-docent* of the History of Medicine.—*Turin:* Signora Angiola Borino, doctor of medicine, has been recognised as *privat-docent* of Pædiatry, and Dr. Arnaldo Vecchi as *privat-docent* of External Pathology.—*Vienna:* Dr. W. Weibel has been recognised as *privat-docent* of Midwifery and Gynæcology.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).—The following scholarships have been awarded as the result of recent examinations held in connexion with this school:—Medical Entrance Scholarships (for those commencing medical studies): Science (£50), H. O. Gunewardene; Arts (£50), A. Blackstock. Medical Entrance Scholarships (for those commencing their final medical studies): (*a*) Anatomy and Physiology (£50), Wilfred Wood and H. A. B. Whitelocke; (*b*) General and Clinical Pathology and Pharmacology (£50), E. C. Malden.

THE LOCAL GOVERNMENT BOARD AND THE SALARIES OF POOR-LAW MEDICAL OFFICERS.—At the last meeting of the Bridgwater board of guardians the question of the reduction of the salary of the workhouse medical officer came under discussion. Eventually the clerk read a communication from the Local Government Board stating that in reply to the letter of the guardians relative to their proposal to reduce the salary of the workhouse medical officer from £65 to £54 per annum, "the Local Government Board would point out that the guardians are *not* empowered to reduce the salary of the medical officer without his consent."

LONDON AMBULANCE SERVICE.—At the meeting of the London County Council on Oct. 14th Mr. E. Smallwood drew attention to the case of a school teacher who was taken ill in the street in Stoke Newington and conveyed on a costermonger's barrow to a hospital, where she died a few hours later. Could any indication be given, he asked, as to the early removal of the reproach to London caused by the absence of an efficient ambulance service.—Mr. Ernest Gray, chairman of the General Purposes Committee, said he was glad to be able to state that Parliament had granted the powers whereby the Council might coördinate the ambulance services of London. Under those powers he hoped that an efficient ambulance service would be provided for the whole of London before the end of the present year.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Oct. 9th, Sir Francis H. Champneys being in the chair. A letter was considered from the Clerk of the Council transmitting a copy of a letter from the National Health Insurance Commissioners (England) on the subject of the effect of the working of the Insurance Act on the administration of the Midwives Act. The Board directed that the Privy Council be thanked for its communication. A letter was considered from the Local Government Board transmitting a copy of a communication from the guardians of the Romford Union relative to their application for the recognition of their medical officer as a teacher of pupil midwives, and asking for the Board's observations thereon. The Board decided that the letter drafted by the chairman be approved and forwarded to the Local Government Board. Letters were considered from the deputy coroner for the West Riding of Yorkshire calling the attention of the Board to the fact that premature birth is not one of the cases specifically mentioned in the rules as imposing on a midwife the obligation of advising medical assistance, and asking the views of the Board on the subject; and from the clerk of the Derbyshire county council suggesting that a rule should be

framed under which midwives would automatically cease to be enrolled on attaining the age of 70. The Board directed that the deputy coroner for the West Riding of Yorkshire and the clerk of the Derbyshire county council be thanked for their suggestions, which will be considered at the next revision of the rules.

LITERARY INTELLIGENCE.—Messrs. George Routledge and Sons, Limited, announce for early publication "A Handbook of Photomicrography," by H. Lloyd Hind, B.Sc., F.I.C., and W. Brough Randles, B.Sc. The new work will contain an account, with illustrations, of the modern methods employed in photomicrography, with a description of the apparatus and processes, treated both from a microscopic and photographic point of view.

NORTH-EAST LONDON POST-GRADUATE COLLEGE.—The opening address of the winter session will be delivered by Sir W. Arbuthnot Lane, Bart., at the Prince of Wales's General Hospital, Tottenham, N., on Thursday, Oct. 23rd, at 4.30 P.M., the subject being "Intestinal Stasis." In illustration of the address, and for the first time, some 20 cases that have been operated on for this condition will be shown. Professor Pouchet, of Paris, is coming to London with a number of leading French physicians especially to hear the address. Dr. W. Seaman Bainbridge, of New York, will give a supplementary demonstration on the subject, and Dr. A. C. Jordan will show some X ray photographs with the lantern. Any medical practitioner wishing to attend will be welcomed if he will apply by letter to the Dean of the College, at the Hospital, for a card of admission.

BOOKS, ETC., RECEIVED.

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Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARNSLEY, R. E., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at St. Bartholomew's Hospital.

BROADFOOT, JOHN, M.B., B.Ch. Glasg., has been appointed Resident Medical Officer for the East Poorhouse and Hospital, Dundee.

BROCKMAN, R. ST. L., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at St. Bartholomew's Hospital.

BROOK, W. F., F.R.C.S. Eng., has been appointed Consulting Surgeon to the Carmarthenshire Infirmary.

BURN, R. E. R., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon and House Surgeon to Orthopædic Department at St. Bartholomew's Hospital.

BUSHNELL, F. G., B.S. Lond., D.P.H. Camb., has been appointed Tuberculosis Officer and Deputy Medical Officer of Health to the Plymouth County Borough Council.

CARTE, G. W., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at St. Bartholomew's Hospital.

CROSSMAN, L. G., M.B., B.S. Lond., has been appointed Senior House Physician at St. Bartholomew's Hospital.

DOLAN, E. M., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Wigton District of the county of Cumberland.

DYAS, G. E., M.B., B.C. Cantab., has been appointed Senior House Surgeon at St. Bartholomew's Hospital.

EVANS, A. G., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician at St. Bartholomew's Hospital.

FIDDIAN, J. V., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at St. Bartholomew's Hospital.

GRIFFITH, H. K., M.B., B.C. Cantab., has been appointed Intern Midwifery Assistant at St. Bartholomew's Hospital.

HADFIELD, G., M.B., B.S. Lond., has been appointed Senior House Physician at St. Bartholomew's Hospital.

HENDERSON, W. T., M.B., B.Ch. Belf., has been appointed Assistant Medical Officer at the Mental Hospital, Canterbury.

KEYNES, G. L., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon at St. Bartholomew's Hospital.

KITCHING, R. L., M.B., B.S. Durh., has been appointed Ophthalmic House Surgeon at St. Bartholomew's Hospital.

MANSFIELD, H. Y., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at St. Bartholomew's Hospital.

MELLER, R. W., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician at St. Bartholomew's Hospital.

NICHOLSON, J., M.B., C.M. Edin., has been appointed Assistant Tuberculosis Officer and Assistant Medical Officer in Fife.

PERRIN, M. N., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon at St. Bartholomew's Hospital.

ROBBINS, F. H., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at St. Bartholomew's Hospital.

ROBERTSON, J. D., M.B., B.Ch. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ballindalloch District of the county of Banff.

ROXBURGH, A. C., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at St. Bartholomew's Hospital.

SMITH, A. B. PAVEY, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Throat and Ear Department at St. Bartholomew's Hospital.

SMYTHE, G. A., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at St. Bartholomew's Hospital.

STANSFELD, R., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Physician at St. Bartholomew's Hospital.

THOMPSON, W. FARRER, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician at St. Bartholomew's Hospital.

WARD, R. O., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon at St. Bartholomew's Hospital.

WEDD, E. P. W., M.R.C.S., L.R.C.P. Lond., has been appointed Extern Midwifery Assistant at St. Bartholomew's Hospital.

WRIGHT, C. R., B.C. Cantab., has been appointed Junior House Surgeon at St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, board, and laundry.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY. — Junior House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—Junior House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BATH ROYAL UNITED HOSPITAL.—House Physician and House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM, QUEEN'S HOSPITAL.—Radiographer. Salary £100 per annum.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry. Also Assistant Pathologist. Salary £100 per annum, with board, residence, and laundry.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £100 per annum.

BRISTOL GENERAL HOSPITAL.—First House Physician, Second House Physician, and Casualty House Surgeon, for six months. Salary £80 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—Dental House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and laundry. Also House Surgeon for six months for Throat, Nose, and Ear. Salary £75 per annum, with board, apartments, and laundry.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

CHATTERIS, NORTH WITCHFORD UNION.—Medical Officer and Public Vaccinator. Salary £50 per annum and vaccination fees.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Pathologist. Salary £40 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Surgeon.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Third and Fourth Assistant Medical Officers, unmarried. Salary £200 per annum, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon to Out-patients.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £104 per annum.

ESSEX EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing. Also Physician in Charge of Skin Department.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary £150 per annum, with board, lodging, and laundry.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and laundry.

GLASGOW PUBLIC HEALTH LABORATORY.—Two Junior Assistant Bacteriologists. Salary £200 per annum.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HAMLET OF MILE END OLD TOWN.—Junior Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

HAMMERSMITH INFIRMARY AND WORKHOUSE, Ducane-road, Wormwood Scrubs, W.—Second Assistant Medical Officer. Salary £130 per annum, with board, lodging, washing, and attendance.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Medical Registrar. Salary £200 per annum.

HULL ROYAL INFIRMARY.—Casualty House Surgeon for six months. Salary at rate of £30 per annum, with board and lodging.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

LEICESTER BOROUGH MENTAL HOSPITAL, Humberstone.—Second Assistant Medical Officer and Pathologist, unmarried. Salary £240 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Two Honorary Medical Officers. Also Honorary Anæsthetist.

LIVERPOOL, PARKHILL HOSPITAL AND SANATORIUM FOR TUBERCULOSIS.—Assistant Resident Medical Officer, unmarried. Salary £140 per annum, with board, washing, and lodging.

LONDON LOCK HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing. Also House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

MANCHESTER, CITY OF.—Two Assistant Tuberculosis Officers. Salary £300 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—Junior House Surgeon. Salary £100 per annum, with apartments and board.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar. Salary £75 per annum.

MANCHESTER SCHOOLS FOR MOTHERS.—Medical Officer. Salary £250 per annum.

MIDDLESEX EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

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NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer in Surgery.

NORTHAMPTON COUNTY ASYLUM, Berry Wood, Northamptom.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

NORTHUMBERLAND COUNTY COUNCIL.—Chief Tuberculosis Medical Officer. Salary at rate of £500 per annum.

OLDHAM ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon for six months. Salary at rate of £100 and £80 per annum respectively, with residence, board, and laundry.

ORKNEY, ROUSAY AND EGILSHAY PARISH.—Resident Medical Officer. Salary £71 per annum.

OXFORD COUNTY ASYLUM, Littlemore, near Oxford.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

OXFORD EYE HOSPITAL, Walton-street.—House Surgeon. Salary £100 per annum, with rooms, board, and laundry.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing. Also Assistant Physician

ST. BARTHOLOMEW'S HOSPITAL.—Chief Assistant in X Ray Department.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer for seven months. Salary at rate of £70 per annum, with residence, board, and laundry.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Ophthalmic Surgeon.

ST. MARYLEBONE INFIRMARY, Rackham-street, Notting Hill, W.—Second Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, and washing.

ST. THOMAS'S HOME.—Resident Medical Officer.

SCALEBOR PARK ASYLUM, Burley-in-Wharfedale.—Assistant Medical Officer. Salary £180 per annum, with board, apartments, attendance, &c.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon and Junior House Surgeon. Salary £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD ROYAL INFIRMARY.—Surgical Registrar. Salary £100 per annum.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £90 per annum, with board and apartments.

SOUTHAMPTON INFIRMARY, Shirley Warren.—Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, washing, and attendance

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer. Salary £250 per annum, with board, lodging, laundry, and attendance.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, attendance, and washing. Also Locum Tenens Medical Officer. Board, apartments, attendance, and washing.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, W.—Assistant Dental Surgeon. Also Second X Ray Officer.

WESTMINSTER GENERAL DISPENSARY, 9, Gerrard-street, Soho, W.—Resident Medical Officer. Salary £120 per annum, with rooms, gas, coals, and attendance.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Physician for Diseases of the Skin.

WEST RIDING OF YORKSHIRE.—Dispensary Tuberculosis Officer. Salary £400 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary at rate of £120 per annum, with board and lodging.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with rations, apartments, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Acts at Chatteris, in the county of Cambridge.

Births, Marriages, and Deaths.

BIRTHS.

FRANKLIN.—On Sept. 15th, at Wadhurst House, Newington Green, London, N., the wife of Reginald Franklin, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

SARGENT.—On Oct. 9th, at 20, Harley-street, W., the wife of Percy Sargent, F.R.C.S., of a son.

TODD.—To Professor and Mrs. T. Wingate Todd, a son, at 11203, Ashbury-avenue, Cleveland, Ohio, U.S.A.

MARRIAGES.

ATKINSON—SHIELD.—On Oct. 7th, at Holy Trinity, Paddington, Arthur William Atkinson, M.B., C.M., to Winifred, daughter of William Shield, M.Inst.C.E.

CALEY—BRIGGS.—On Sept. 27th, at St. John's, Knighton, Leicester, by the Rev. W. G. Whittingham, M.A., Vicar, F. G. Caley, M.A., M.B., B.C. Cantab., D.P.H. Oxon., eldest son of Hugh A. Caley, of Thornbury House, Windsor, to Edith, youngest daughter of the late Joshua Briggs, of Headingley, Leeds.

RIDGE—BAKER.—On Oct. 7th, at Christ Church, Enfield, Middlesex, Edwyn Manners Ridge, F.R.C.S., to Gladys Boyne, younger daughter of W. H. Baker, of Bush Hill Park, Enfield.

DEATHS.

SWALLOW.—On Oct. 11th, at his residence, Clifton Lodge, Clarence-road, Clapham Park, S.W., James Dodd Swallow, M.D., in his 78th year.

WATSON.—On Oct. 5th, at Ladysmith, Cape Colony, Robert Walker Watson, M.R.C.S.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE LIBRARY OF THE SOCIETY OF APOTHECARIES.

LOVERS of old books will delight in the Catalogue of the Library of the Society of Apothecaries, by William Bramley Taylor, Master of the Society and honorary librarian, edited by J. E. Harting (London: Taylor Brothers. 1913. Pp. 102). The library, indeed, makes no pretence of being an up-to-date scientific library for the use of the modern student; it is rather a collection of old books gathered together during many years. It appears to have had its origin, according to the archives of the society, on Nov. 28th, 1633, when Mr. Thomas Johnson, of Snow Hill, presented to the society "as a guifte, a booke called *Gerard's Herbal*." It seems safe to identify the donor, who, by the way, according to Barrett, was made free of the Livery and presented with a gown and hood in return therefor, with the Thomas Johnson who in 1633 brought out the second edition of "The Herball; or General History of Plantes, gathered by John Gerarde of London, Master in Chirurgie," which was originally published in 1597. The library at present contains a copy of Johnson's edition (as well as one of the original), but it cannot be the same, for in 1666 the Apothecaries' Hall perished in the Great Fire, and doubtless all the books with it. However, in 1681 a new library was begun, connected with the "Physic Garden" at Chelsea, which received in 1739 a notable addition in the collection of books and dried plants bequeathed by Dr. Samuel Dale, of Braintree, Essex, and including the collection of Mr. John Ray. Meantime deep cupboards on either side of the fireplace of the gallery of the Hall were used as a repository for the new library that was being formed in the Hall, and in 1744 the present book-cases were constructed. About 1832 the books from the Physic Garden, 218 in number, were transferred to the Hall library, which at the present time contains about 1700 volumes and 43 periodicals. A cursory perusal of the Catalogue brings out the fact that the great bulk of the books date between the end of the fifteenth century and the end of the eighteenth. There is a goodly sprinkling also of books of the first quarter of the nineteenth century, a small number from the second quarter, and only three or four of later date than 1850. As might be expected, they are mainly connected with materia medica, and more especially plants, though medicine and surgery and their branches and the collateral sciences are fairly represented, and medical history and biography are to be found. A few incongruous volumes break the uniformity in subject matter. A Greek and Latin lexicon may be regarded as a medical necessity, and works on gardening are well in place. Agriculture is, perhaps, a step further removed, and the "Plans of Capital Cities" (1771) seems even more remote, but "Bell's British Theatre: consisting of the most esteemed English plays, Vols. 1–21, London, 1777–80," suggests a votive offering from some play-actor, who thus showed a gratitude he could not express in the more usual manner. Naturally the library is rich in herbals and pharmacopœias. The following is a list of the former: Brunfels, 1530; Clusius, 1601; Coles, 1657; Culpepper, 1651; Dodoens, 1578; Durante, 1585; Fuchs, 1542; Gerard, 1597 and 1633; Hudson, 1762; Johnson, 1633; Lovell, 1659; Lyte, 1578 and 1595; Pancovius, 1654; Parkinson, 1629 and 1640; Tournefort, 1719; and Turner, 1551. Among the pharmacopœias are those of the United States of America, 1830 and 1840; Argentoratum, 1725; Bavaria, 1688; Berlin, 1698; Brussels, 1837; Dublin, 1826; Edinburgh, 1744, 1774, 1783, 1792, 1795, 1803, 1805, and 1839; Lisbon, 1784–94; London, 1650, 1677, 1689, 1711, 1721, 1724, 1744, 1746, 1747, 1763, 1788, 1787, 1788, 1791, 1793, 1815, 1824, 1836, and 1851; Guy's, 1818 and 1837; Conspectus of Pharmacopœias, 1847; Paris, 1758, 1818, and 1837; Radcliffe, 1716; and Russian, 1782.

SEXUAL TEMPERAMENT.

To the Editor of THE LANCET.

SIR,—Mr. Victor Bonney, in an enlightening contribution on artificial vagina in your issue of Oct. 11th, refers to the absence of sexual feeling on the part of one of the cases. Can any reader inform me approximately what is the proportion of English married women who fail in this quality? Is there any authoritative information on this point? The percentage of American women has been stated on fair authority to be very high.

I am, Sir, yours faithfully,

Oct. 13th, 1913. M.A., M.B. Cantab.

CLIMATE AND HEALTH OF MUSCAT.

Major Knox, H.M. Consul at Muscat, observes in his annual report that although that town is frequently described as one of the hottest in the world it cannot be said to be unhealthy. During 1912–13 the highest temperature recorded was 114° F. and the lowest 64°. The high temperature was due to the hot winds, which at certain times in the summer months, and generally only for a few hours at night, blow from the Arabian deserts and barren rocks round Muscat. For the greater part of the summer, owing to the high state of humidity of the atmosphere in combination with a high temperature, the climate is very trying. From November till the middle or end of March the weather is distinctly pleasant, but fails to be bracing, as the temperature seldom falls below 60°. The rainfall averages four inches only, and it is due to this fact that Muscat may be considered a fairly healthy tropical port, provided ordinary precautions are taken to purify the drinking-water by boiling or filtration, and to protect oneself from mosquitoes, which during the winter months are numerous in the town, and the cause of a considerable amount of malaria amongst natives. There were no cases of cholera, small pox, or plague during the year, and only a few cases of dysentery and enteric fever amongst the native population. Muscat is the capital and the principal port of the Sultanate of Oman, which comprises a portion of the south-eastern coast of Arabia up to the entrance to the Persian Gulf. Muscat is the only port of call for steamers in Oman, but as the town lies at the end of a cove surrounded by huge rocky hills it has no means of communication with the interior. The neighbouring town of Matrah, about two miles up the coast, supplies this want, and is the local centre for trade with the interior. The population of Muscat is about 10,000 and of Matrah about 14,000. Neither of these towns makes any pretence of sanitation. Muscat presents a picturesque appearance from the sea, but the interior of the town is for the most part mean and squalid. Matrah is, if anything, worse than Muscat. The interior of Oman is mountainous, and the inhabitants, for the most part, are poor. The population is estimated at about 500,000, of whom a considerable portion are nomadic.

THE INDIAN CIVIL SURGEON OF THE PAST.

To the Editor of THE LANCET.

SIR,—At page 1100 of THE LANCET of Oct. 11th you publish a description of the "Indian Civil Surgeon of the Past," as stated by the *Indian Planter's Gazette*. I have not the opportunity of seeing the original, but should be greatly surprised if the quotation you give from that paper was seriously meant to contrast past with present conditions of the Indian Medical Service, which was, and is, the chief source of supply of civil surgeons.

The words you quote from the *Indian Planter's Gazette* are from "Twenty-one Days in India," by George Aberigh Mackay, one of the most splendid instances of sarcastic and yet withal kindly and humorous, and at times pathetic, productions I have ever read. It would, however, be just as correct to accept Mark Twain's description of the "undertaker" who manipulated faces of departed husbands that they might wear the *risus sardonicus* as typical of the methods of that doctor's ally, as to hold that in 1880, when Mackay wrote "The Civil Surgeon," he dealt with other than fiction.

Without vouching for the accuracy of my information, I have been told that Mackay realised his wish of being free from the attentions of the loud civil surgeon he typifies by dying whilst on a journey before medical aid could be secured for him.

I am, Sir, yours faithfully,

W. G. KING, Colonel I.M.S. (retired).

Hatch End, Oct. 12th, 1913.

MALARIA AND SMALL-POX IN SIAM.

IN a report to the Foreign Office Mr. T. H. Lyle, British Consul at Chiengmai, the second town of importance in Siam, mentions that an epidemic of malignant malaria, which commenced in 1911, continued unabated during 1912, but in June of the present year (the time of the writing of the report) an improvement had set in. The disease moved slowly from village to village, and assumed a curiously localised form, in that one district would be attacked whilst other districts in the immediate neighbourhood would remain for a time entirely unaffected. Small-pox also prevailed in epidemic form until nearly the end of 1912. Vaccination was rigorously carried on, both by the Siamese Government and by the American Presbyterian Mission, over 50,000 successful cases being recorded by the latter. The leper asylum, constructed a few miles south of Chiengmai by the efforts of the medical representative of the American Presbyterian Mission, continues to attract sufferers from all parts of the country, one inmate having sought this refuge from a remote district in British territory. The Siamese Government continues to show a sympathetic and practical interest in this good work. The leper patients have increased from 27 in 1910 to 100 in 1913. For the year ended March, 1911, the population of the Chiengmai district was returned at 1,223,761, but it is now estimated at only 1,189,431. The recent two years' epidemics of small-pox and malignant malaria cannot fail to have had serious effects, more especially amongst infants and very old people.

"LEAD-POISONING."

To the Editor of THE LANCET.

SIR,—A man who had been sitting on the damp grass for some hours writing with a lead-pencil and frequently sucking the point thereof while waiting for inspiration, eventually felt a sharp pain in his loins. He limped to a local quack. After questioning him as to the onset of the attack, the quack simply said "plumbism." The man received some yellow pills, paid the fee, and went away. He was a studious person and

searched the encyclopædia for the meaning of "plumbism" and what lead-pencils were made of. The next day he returned to the quack and said, "You told me I had 'plumbism,' which is lead-poisoning, and I now find there is no lead in lead-pencils, only graphite or plumbago." "Oh," replied the quack airily, "did I say plumbism is the cause of your lumbism? I meant to have said plumbago is the cause of your lumbago." "Oh," said the man, "but anyhow, your pills are only bread." "Of course, of course," replied the quack, "don't you know that bread is the oldest and finest thing to remove pencil marks with? You didn't want me to give you indiarubber pills, did you?"

I am, Sir, yours faithfully,

J. MILLER.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS: at 5.30 P.M. (Postponed from last Monday.)

Demonstration by Dr. Hideyo Noguchi of the Rockefeller Institute.

(1) Pure Cultures of Various Spirochætæ (Treponema pallidum, T. pertenue, T. microdentium, T. macrodentium, T. mucosum, T. calligyrum, T. refringens).
(2) Transmission of Syphilis to Animals by means of Pure Cultures of Treponema pallidum.
(3) Demonstration of Treponema pallidum in the Brain of General Paralytics.
(4) Transmission of Treponema pallidum from the Brain of General Paralytics to the Rabbit.
(5) Production of Symptoms and Lesions resembling General Paralysis in the Rabbit by means of an Intracerebral or Subdural Inoculation with Treponema pallidum.
(6) Cultural Studies of the Virus of Rabies.

Illustrated by Lantern Slides.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Discussion:
On Diseases Due to Deficiencies in Diet, opened by Dr. F. G. Hopkins, F.R.S.

The following will take part in the discussion:—Dr. Robert Hutchison, Dr. Casimir Funk, Dr. F. M. Sandwith.

Fellows wishing to take part are requested to communicate with the Hon. Secretaries.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

Presidential Address:
Dr. F. W. Andrewes.

THURSDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure): at 5.30 P.M.

Presidential Address:
Dr. F. A. de T. Mouillot: Some Lessons derived from Twenty Years of Spa Practice.

The Annual Dinner will be held at 7.15 P.M., the same evening at the Waldorf Hotel, and the following are expected as guests of the Section:—Sir Malcolm Morris, Sir Philip Magnus, and Dr. A. Manuel.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Cases:
Dr. C. E. Zundel: (1) Infantilism associated with Diabetes Insipidus; (2) Infantilism associated with Albuminuria.
Dr. E. A. Cockayne: (1) Constriction of Arm by Amniotic Bands; (2) Hemiplegia with Very Extensive Nævus in a Baby.
Dr. J. Porter Parkinson: Rheumatoid Arthritis in a Boy.
Dr. T. R. Whipham: (1) Three Cases of Under-development; (2) Enlarged Liver and Spleen associated with Jaundice.
Dr. F. Langmead: (1) Cretinism in a Baby; (2) Two Sisters with Deformity of Bones and Splenomegaly.

Pathological Specimens:
Dr. J. Porter Parkinson: New Growth in the Small Intestine.
Dr. J. D. Rolleston: Diphtheria of the Trachea and Bronchi.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Paper:
Dr. W. M. C. Wanklyn: Working-class Home Conditions in London.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Demonstration of Living Spirochætæ and other Microscopic Specimens. Cultures and Preparations of Sporothrix. Cases sent for Consultation. Clinical Cases by Dr. M. Dockrell, Dr. Bunch, Dr. K. Sibley, Dr. W. Griffith, and Dr. J. L. Phibbs. 5.15 P.M., Discussion on Some Methods of Treating Syphilis (opened by Dr. J. L. Bunch).

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Opening Address:—Dr. T. B. Hyslop (President): Clinical Psychiatry.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Mr. A. S. Morley: Injuries of the Back, Considered from their Medico-Legal Aspect.

HUNTERIAN SOCIETY, St. Bartholomew's Hospital (Library), E.C.

WEDNESDAY.—9 P.M., Address:—The President (Dr. W. M. Ettles). Dr. A. S. Woodwark will show a series of Pathological Specimens recently added to the Museum of St. Bartholomew's Hospital.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Fibroma. (Museum Demonstration.)
WEDNESDAY.—5.30 P.M., Mr. Colyer: Specimens illustrating Irregularities of the Teeth in Animals. (Museum Demonstration.)
FRIDAY.—5 P.M., Prof. Keith: Specimens illustrating Anatomical and Pathological Conditions of the Great Bowel in Cases of Intestinal Stasis. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. H. Sequeira: Common Errors in Diagnosis—The Skin.
TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture:—Dr. F. J. Smith: Common Errors in Diagnosis—How to Avoid Them.
WEDNESDAY.—4 P.M., Mr. D. C. L. Fitzwilliams: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. E. Clarke: Common Errors in Diagnosis—The Eye.
THURSDAY.—4 P.M., Dr. W. J. Fenton: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D. Grant: Common Errors in Diagnosis—The Throat.
FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye). 5.15 P.M., Lecture:—Dr. W. Wingrave: Common Errors in Diagnosis—Clinical Pathology.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Bernstein: Blood.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Diseases of Throat, Nose, and Ear.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Bernstein: Blood.
THURSDAY.—10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Bernstein: Blood.
FRIDAY.—Annual Meeting of Ladies' Association. College closed.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.
TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine.
WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Dr. R. O. Moon: Heart Strain.
FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

THURSDAY.—4.30 P.M., Opening Address:—Sir Arbuthnot Lane, Bart.: Intestinal Stasis (illustrated by lantern slides and the exhibition of patients).

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

TUESDAY.—2 P.M., Dr. F. Warner: Development of the Infant Brain.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. P. Sargent: Posterior Root Section.

FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. P. Sargent: Cerebral Decompression.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. K. Sibley: Alopecia.

THURSDAY.—6 P.M., Dr. M. Dockrell: Eczema (its Varities, Symptoms, and Treatment).

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Mr. G. Wright: Intestinal Stasis.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Mr. J. W. Smith: Appendicular Dyspepsia.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Dr. D. E. Core: Hæmoptysis.

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. J. Wharton: Shadow and Vessel Test.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: The Phenomena of Labour. 11 A.M., Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: The Phenomena of the Puerperium. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: Operating on the Fallopian Tubes. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 26th–Nov. 5th (Ghent).—International Exhibition.

May 31st to October (London, Earl's Court).—Imperial Services Exhibition.

May–October (Leipzig).—First International Building Exhibition.

June 24th–Oct. 31st (London, 54a, Wigmore-street).—Historical Medical Museum. (Organised by Mr. Henry S. Wellcome.)

June–October (London, Crystal Palace).—Anglo-German Exhibition.

Oct. 1st–Nov. 1st (London, Shepherd's Bush).—National Gas Exhibition.

,, 9th–25th (London, Olympia).—Ideal Home Exhibition.

,, 22nd–25th (Berlin).—Eleventh International Anti-Tuberculosis Conference.

,, 28th–Nov. 1st (London, Royal Horticultural Hall).—Twenty-fourth Universal Cookery and Food Exhibition.

Nov. 7th–15th (London, Olympia).—Twelfth International Motor Exhibition.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 15th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 9	29·83	N.W.	...	94	60	53	51	54	Cloudy
,, 10	30·06	N.E.	...	94	61	49	48	50	Fine
,, 11	29·89	E.	...	58	56	49	49	50	Overcast
,, 12	30·30	S.	0·53	90	62	48	50	55	Fine
,, 13	30·46	S.E.	...	84	63	48	53	53	Foggy
,, 14	30·32	S.	...	81	62	52	53	54	Cloudy
,, 15	30·15	N.	0·17	98	58	54	53	54	Cloudy

The following journals, magazines, &c., have been received:—West London Medical Journal, Gynæcology, Monthly Encyclopædia, Archives Générales de Médecine, Maryland Medical Journal, L'Hygiène de la Viande et du Lait, International Journal of Surgery, Bulletins et Mémoires de la Société de Radiologie, Archives de Médecine et de Pharmacie Militaires, Jahrbuch für Kinderheilkunde, Archiv für Experimentelle Pathologie und Pharmakologie, Dublin Journal of Mental Science, Guy's Hospital Gazette, St. Paul Medical Journal, Albany Medical Annals, La Clinique Ophthalmologique, Proceedings of the Royal Society of Medicine, Bedrock, Science Progress, &c

Communications, Letters, &c., have been received from—

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